Pacific PULP & PAPER Industry

October • 1938

UNIVERSITY OF WASH SEATTLE WASH LIBRARY
147

The Story of a Dandy Roll

IT WAS MADE TO LIVE LONGER...

Every pulp mill has the problem of replacement. So when a part or piece of equipment is made to give *longer service;* time and money are saved.

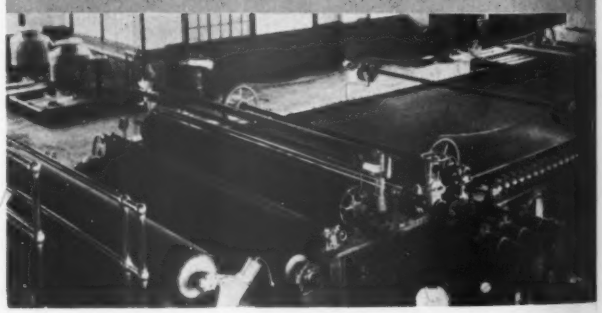
★ ★ ★

A certain mill had just such a problem with a dandy roll. The old ones were wearing out too quickly.

The mill engineers and our engineers collaborated, and the Vaughan plant soon produced a product capable of outliving several of the former ones.

★ ★ ★

Vaughan Motor Company not only make valves; but has a diversity of equipment and talent to work out many other mechanical problems in a mill.



Consult with Vaughan engineers whenever you have a complicated problem to solve. You'll find them helpful, co-operative, and experienced.

★ ★ ★

Let us help you with your mechanical problems

VAUGHAN Precision made **VALVES**

VAUGHAN MOTOR COMPANY • Ph. EA 1108 • 835 S. E. MAIN • PORTLAND, OREGON

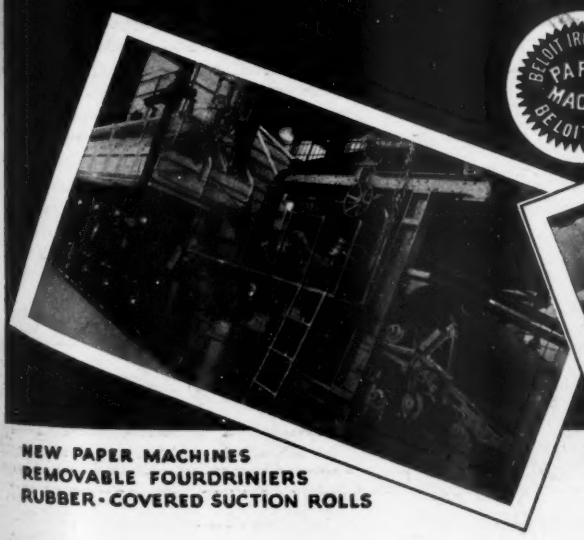
Pacific Pulp & Paper Industry is published once a month, at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00
Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.

The PACIFIC COAST GOES BELOIT

MODERN BELOIT EQUIPMENT WILL BE FOUND IN PRACTICALLY EVERY MILL ON THE COAST

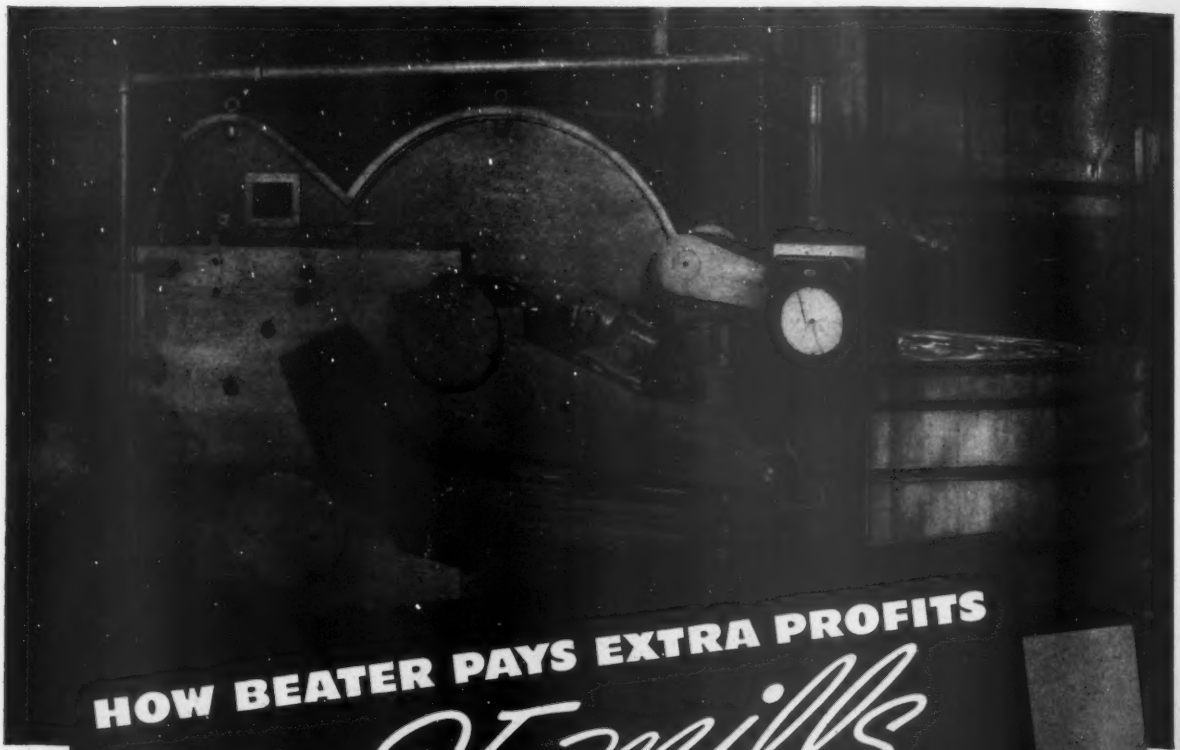
The Beloit Way is the Modern Way

BELOIT IRON WORKS PAPER MACHY BELOIT WIS



NEW PAPER MACHINES
REMOVABLE FOURDRINIERS
RUBBER-COVERED SUCTION ROLLS

CHAIN DRYER DRIVES
HIGH-SPEED SUPER SHAKES
ENCLOSED HYPOID OR SPIRAL BEVEL GEAR DRIVES



HOW BEATER PAYS EXTRA PROFITS *in 25 mills*

You can get dividends out of the beating process by measuring and controlling roll pressure with the Taylor Beater Roll Pressure Recorder

UNTIL four years ago there was no sure way to measure and control one most important variable in the treatment of stock. The beater-man determined beater roll pressure by a roll-position recorder, by listening to a sounding rod held against the bed plate, or by manual adjustment of a hand wheel.

Today, the Taylor Beater Roll Pressure Recorder removes guesswork. It enables the operator to adjust the roll to the correct pressure for any stock being treated. It eliminates variations of 300% or more in roll pressure. It helps to produce more uniform stock—at lower cost—in a shorter space of time.

During the past four years, 25 mills have used this Taylor Pressure Recorder to obtain more efficient beating, raise the quality of their product, increase production and cut conversion costs. Several weeks' tests in one mill showed an increase of 4.8% in beating capacity without the cost of more beating equipment. In other mills savings in time went as high as 12%.

Tests also show Taylor Beater Roll Pressure Recorders can help to cause a substantial saving in power. When used to maintain proper roll pressure, a reduction of 5½% resulted in power consumption.

5.5% SAVING→
1109 KWH CONSUMED WHEN POSITION RECORDER ONLY WAS USED
1048 KWH CONSUMED WHEN Taylor BEATER ROLL PRESSURE RECORDER USED

● Power savings effected by using a Taylor Beater Roll Pressure Recorder and eliminating too high roll pressure help to pay for it in a short time.

More uniform drying, greatly improved folding and more efficiency in duplicating any beating schedule—all these advantages are worth money. Power and time savings alone pay for a Taylor Recorder in a short time.

Let Taylor Engineers bring you this accuracy and economy, assure you of consistent high quality in finished paper. Get the full story of the Taylor Beater Roll Pressure Recorder. Ask a Taylor Representative for Special Bulletin 98113. Or write Taylor Instrument Companies, Rochester, N. Y. Plant also in Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London, England.

Pacific Coast Sales Offices—145 Mission St., San Francisco, Cal., and Central Bldg., Los Angeles. Also, Terminal Sales Bldg., Portland, Oregon. Complete repair facilities for all Taylor Instruments are available in San Francisco. For your protection, have adjustments or repairs to Taylor Instruments made by Taylor.

Taylor

Indicating | Recording • Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS

BEAR BRAND
Cl_2 SO_2 NH_3 ZnS_2O_4
GREAT WESTERN ELECTRO-CHEMICAL CO.
9 MAIN STREET, SAN FRANCISCO
PLANT: PITTSBURG, CALIFORNIA
NEW YORK SEATTLE LOS ANGELES
GREAT WESTERN ELECTRO-CHEMICAL CO.
BEAR BRAND
PRODUCTS
SAN FRANCISCO, CALIF.

SELLING AGENTS

for WOOD PULP and PAPER

BULKLEY DUNTON PULP CO., Inc.

295 MADISON AVENUE NEW YORK, N. Y.

CABLE ADDRESS: BULKTON

Pacific PULP & PAPER Industry

The Journal of the Pacific Coast Industry

OCTOBER • 1938

Vol. 12 — No. 10

MILLER FREEMAN
President

LAWRENCE K. SMITH
Manager

HARLAN SCOTT
Editor

JOHN E. BROWN
Associate Editor

KEMPER FREEMAN
Production Manager

MILLER FREEMAN, JR.
Circulation Manager

OFFICES

Seattle

PUBLISHING OFFICE
71 Columbia St.
Tel. MAin 1626

Portland

John E. Brown
1220 S. W. Morrison St.
Tel. AT. 8890

San Francisco

Stuart F. Leete
121 Second St.
Tel. GA. 5887

Los Angeles

Calvin D. Wood
124 W. Fourth St.
Tel. MUtual 5857

Copyright, 1938, by the Consolidated Publishing Co. Contents may not be reproduced without permission.

SUBSCRIPTION RATES

United States and Canada	$4.00
Other Countries	$5.00
Single Copies	$ .35
Review Number	$1.00

New Company Considers Pulp Mill in British Columbia

Deep River Development Company Applies for Water Rights on Campbell River

● Unsettled conditions in Europe, which have slowed industrial recovery in this country, are given as the chief reason for delay in getting proposed new pulp and paper mills in British Columbia under way.

Sir Malcolm Stuart, noted British industrialist, accompanied by T. S. F. Frost, of London, paid a visit to the coast last month, looked over the plant of Nootka Wood Products, Ltd., at Port Tasis on the west coast of Vancouver Island, and made a survey of the possibilities of establishing a pulp mill to utilize some of their extensive pulpwood limits on the north end of the island. They were guided by A. E. McMaster, managing director, whose aim has been to establish a pulp mill at Port Alberni or at some other suitable location on the west coast. Mr. McMaster was for many years vice-president and general manager of Powell River Company.

Sir Malcolm would make no statement on the prospects, but Mr. McMaster feels that a return of business confidence overseas, coupled with an improved market, may result in materialization of his plans.

Meanwhile a new company, known as Deep River Development Company, has been organized at New Westminster, B. C., and it has applied to the British Columbia water board for authority to take water from Bull Dog Canyon and construct power works on Trout Pool, Campbell River, in connection with a pulp and power development. B. C. Power Corporation, largest hydro company operating in the province, already has extensive power rights in the Campbell River area on the northeast coast of Vancouver Island.

● Officials of the new company have made inquiries concerning purchase from the provincial government of forty acres at the site, and procedure of filing application for a license to use water from the river above Elk Falls. So far no hearing has been held on the application.

The site sought is close to that originally held by International Harvester Company and Crown Zellerbach Corporation.

Valentine Quinn, formerly associated with Pacific Terminals, Ltd., at New Westminster, and J. P. and William Meehan of Vancouver are identified with the project. Mr. Meehan declined to elaborate on the company's plans at present. Some years ago Meehan brothers were interested in a plan to utilize waterpower of the Cheakamus Canyon for a pulp mill, but the city of Vancouver refused to surrender its rights to that area, included in the municipal watershed.

Form Anacortes Paper Products Company

● Early in October incorporation papers were filed at Olympia for the Anacortes Paper Products Company, Anacortes, Washington, with A. D. Bowen, Samual G. Brooks, D. E. Deane, F. D. McCormack and Austin Shaw as incorporators.

It is reported that the company plans to make roofing paper. The incorporation papers stated the capitalization at $50,000.

Production Ratio Passes Last Year for First Time

● For the first time in 1938 the weekly production ratio report of paper production to capacity published by the American Paper and Pulp Association, shows an increase over the corresponding week last year.

For the week ending October 1st, 1938, the ratio was 81.9 per cent while for the week ending October 2nd, 1937, the ratio was 79.1 per cent.

In the previous week ending September 24th this year and September 25th, 1937, the figures were exactly reversed 79.1 per cent for the former and 81.9 for the latter.

From the low point in January, 1938, of 63.9 per cent the production ratio has clibed jerkily to a monthly high in August of 77.2 per cent. It then dropped to 76.2 per cent in September which was largely due to the Labor Day shutdown. The climb has apparently resumed judging by the last week in September report.

In 1937 the ratio started with 90.3 in January, rose to 92.1 per cent in April and then steadily declined month by month until December when it was down to 54.5 per cent.

The 1937 yearly average was 80.6 per cent against 70.1 per cent the first 39 weeks of 1938. On a comparable first 39 week basis the present year is 16.8 per cent below the average for 1937 of 86.9 per cent.

Superintendents Announce Winter Meeting for Seattle

Chairman McCurdy Appoints James F. Brinkley General Chairman

● The Winter Meeting of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association will be held at the New Washington Hotel in Seattle, Friday and Saturday, December 2nd and 3rd, according to an announcement made early in October by L. S. McCurdy, chairman of the Pacific Coast Division. Mr. McCurdy is paper mill superintendent for the National Paper Products Company, Division of Crown Zellerbach Corporation at Port Townsend, Washington.

Mr. McCurdy also announced the appointment of James F. Brinkley of Seattle as general chairman of the meeting. Mr. Brinkley is president of the James Brinkley Company.

Registration will begin Friday noon, December 2nd. In the afternoon a golf tournament will be held, and an innovation in the form of trap and skeet shooting contests. It is expected that these contests may draw larger crowds than the golf tournament for a number of the superintendents are reported to be experts with the gun.

Friday evening there will be an informal party at the New Washington. Saturday morning at the business session two paper dealing with mill problems will be presented.

At noon on Saturday there will be a special luncheon to which the ladies are invited.

● The afternoon will be devoted to the famous Superintendents' Round Table Discussion, and Chairman McCurdy states that much material has already been collected for discussion. Those having questions they would like to have discussed are urged to write Mr. McCurdy at Port Townsend so he may include them in the Round Table discussion.

Saturday evening will be given over to a dinner dance at which prizes for golf and skeet and trapshooting will be awarded.

A special ladies committee will shortly be appointed to provide an interesting program of entertainment for the many ladies who always attend the December meeting.

The complete program including the papers to be presented will be published in the November number of PACIFIC PULP & PAPER INDUSTRY.

General chairman James Brinkley urges early reservations. They should be sent to him at 417 Ninth Avenue South, Seattle.

Membership Growing

● L. S. McCurdy, chairman of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association, has announced that sixteen Pacific Coast men have become members of the association in recent months. They are:

Clarence V. Basom, paper board mill superintendent of Fibreboard Products, Incorporated, Port Angeles, Washington.

Arthur F. Benson, master mechanic of Fibreboard Products, Incorporated, Port Angeles.

Raymond A. Dupuis, resident manager of Washington Pulp & Paper Corporation, Division of Crown Zellerbach Corporaotion, Port Angeles.

● C. Harry Carruthers, general superintendent of the Powell River Company, Powell River, B. C.

Allen Watson, sulphite superintendent of the Powell River Company, Powell River, B. C.

Martin Strange, sulphite superintendent of Pacific Mills, Limited, Ocean Falls, B. C.

Fred R. Riley, paper mill superintendent of the Powell River Company, Limited, Powell River, B. C.

● George H. McGregor, general superintendent Longview mill, Pulp Division, Weyerhaeuser Timber Company, Longview, Washington.

Harold D. Cavin of Cavin, Marshall & Barr, consulting engineers of Seattle.

Norman A. Lewthwaite, pulp mill superintendent, National Paper Products Division, Crown Zellerbach Corporation, Port Townsend, Washington.

Frederick L. Zeil, technical supervisor at Port Townsend.

● Dell James Wollam, chief engineer at Port Townsend.

John H. Quigley, tour superintendent at Port Townsend.

Thomas W. Geddes, assistant paper mill superintendent at Port Townsend.

Elmer E. Davis, assistant paper mill superintendent at Port Townsend.

● Alvin J. Bogan, master mechanic at Port Townsend.

Chairman McCurdy is paper mill superintendent of the National Paper Products Company, Division of Crown Zellerbach Corporation at Port Townsend.

Pacific Straw Paper Overhauls Mill

● The Pacific Straw Paper & Board Co. shut down the Longview mill September 24 to completely overhaul the plant and to install new dryers on the board machine. They were ready to go again October 10.

Twelve additional dryers, which had been on hand about a year awaiting a suitable time to shut down, were put in. They will increase production of the unit by about 15 per cent.

Other improvements consisted of new foundations, rebuilding of the wet end, revamping of the beater room, installation of a Wiener refiner, etc. An addition was also built for the box plant, and more egg carton equipment installed.

The entire plant was given a thorough general overhaul. This is the first time that the plant has been shut down for more than a day or two at a time in the last ten years.

West Linn Sawmill Overhauled

● The sawmill at the West Linn plant of Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, was shut down for two weeks ending October 5, during which time the mill was given a thorough general overhaul.

The West Linn paper mill is still operating five days a week, the schedule which has been maintained steadily for two years, despite the general drop in business of the industry.

Pacific Straw Buys Paper Specialty Co.

● The Pacific Straw Paper & Board Company has taken over the business of the Paper Specialty Company and has moved the equipment from Portland to the Longview plant. The machines make waxed food trays, and the four units turn out about 7,000 per hour. They are now in operation in Longview.

Although the original owners still retain title to the machines themselves, for the present at least, all production and sales are in the hands of the Longview firm. Chas. F. Schaub is president of the company and Arthur Zimmerman is general manager.

Roy Kelly Calls on Coast Mills

● Roy H. Kelly, superintendent of the Marathon Paper Mills Company of Rothschild, Wisconsin, accompanied by Mrs. Kelly, arrived in Portland by plane on September 20th. They spent a week with Mr. and Mrs. W. A. Kelly of Portland.

Roy and his brother Bill Kelly spent a week visiting a number of mills including Inland Empire Paper Company at Millwood, Washington, the Camas mill of the Crown Zellerbach Corporation, the St. Helens Pulp and Paper Company, the Longview Fibre Company and the St. Regis Kraft Company, and then flew back to Wisconsin.

Bill Kelly, who is now in the pulp and paper mill supply business, was formerly active in the production end as manager of the Northern Paper Mills at Green Bay, Wisconsin, and as general manager of the Hawley Pulp & Paper Company of Oregon City.

St. Helens Declares First Dividend of Year

● Directors of the St. Helens Pulp & Paper Company of St. Helens, Oregon, declared a dividend of 40 cents a share, payable October 1st to stock of record September 24th.

It was stated by the company that the prospects for the fourth quarter appear satisfactory both as to sales and production.

This was the first dividend declared by St. Helens this year.

Crown Zellerbach Annual Technical Meeting

● The technical association and superintendents of the Crown Zellerbach Corporation will hold their annual fall meeting in Portland October 28 and 29.

Puget Sound Pays Preferred Dividend

● The directors of the Puget Sound Pulp & Timber Company on September 23rd declared the regular quarterly dividend on preferred stock of 30 cents per share, payable October 1st to stock of record September 23rd.

Camas Running Five Machines On Seven Day Basis

● The following good news appeared in the Oregonian of Portland, Oregon, September 29th. We quote:

"Camas, Wash., Sept. 29 — For the first time in a year five paper machines at the Crown Willamette Paper Company mill here will run through next Sunday, and probably will continue on seven-day schedules for several months, it was announced at the mill yesterday.

"Machines No. 1, 2, 3, 9 and 11, all of them tissue machines, will run seven days a week, while the other seven machines will remain on normal six-day schedules, where they have been for three months. Meanwhile the converting plant, which handles most of the tissue, is teeming with activity. Two hundred thirty-two employes are on the payroll, a near record.

"In a statement yesterday Mill Manager J. E. Hanny said the mill was forced to revert to a seven-day schedule on tissue machines, even at the expense of overtime, or else fail in commitments to customers. The increase in demand for Camas paper is attributed to a better fruit wrap season than expected and a better demand for toilet tissues and towels, probably due to a depletion of inventories."

Fred Olmsted Named Camas Technical Supervisor

● Fred A. Olmsted is the new technical supervisor of the Camas mill of the Crown Willamette Paper Co., division of Crown Zellerbach Corporation, having been advanced to this post at the time W. R. Barber was appointed technical director of all the Crown Zellerbach properties.

Mr. Olmsted was the first paper mill chemist on the Pacific Coast, coming out from the East in 1910 to join the staff of the West Linn mill. This was the old Willamette Pulp & Paper Co. before the consolidation in 1914.

He is a graduate of the Massachusetts Institute of Technology at Boston with a degree of B. S. in chemistry. He spent a year teaching industrial chemistry there, and then went with Arthur D. Little, consulting chemist, for whom he was in charge of the pulp and paper department. Later he became secretary of the corporation when it was formed. He remained with this firm until 1910 when he came to the Coast.

Resigning from the West Linn mill in 1915, Mr. Olmsted went into business for himself in Portland and for four years was a consulting chemical engineer. He then went into the manufacture of insecticides as president of the Hood River Spray Co. He continued this work until the end of 1932, after which he returned to the Crown Zellerbach interests as a chemist in the laboratory at Camas.

● Mr. Olmsted has been at Camas since 1933 and was assistant technical supervisor prior to his recent elevation to the higher position.

When the annual Camas Paper School starts its sixth term October 25th Mr. Olmsted will be principal, succeeding Mr. Barber. A. G. Natwick, assistant mill manager, is dean of the school.

Camas Paper School To Start Sixth Year

● The fall sessions of the Crown Willamette Paper School is to start at Camas on October 25. This will be the sixth year of this successful mill activity.

A. G. Natwick will act as dean of the school and F. A. Olmsted will be principal. Clarence Enghouse of the West Linn plant, has been named vice principal, a large enrollment from this plant being expected. Millard Rawlings is registrar for the school.

TAPPI Holds First Dinner in Portland

Large Crowd Hears Evald Anderson and Otto Hartwig Speak

● The first of the Fall and Winter Dinner Meetings sponsored by the Pacific Section of TAPPI was held Tuesday evening, October 4th, at the Heathman Hotel in Portland, Oregon.

Over a hundred men were present principally from the Portland and Longview area. The group was unusually representative of the industry with mill managers and superintendents being present as well as technical men and those in the allied equipment and supply industries.

They came to hear two interesting talks pertinent to present day operating problems. The first talk, "Some Gas Cleaning Problems in the Pulp and Paper Industry," was presented by Evald Anderson, technical director of the Western Precipitation Company of Los Angeles. Mr. Anderson's paper covered methods and equipment for eliminating the nuisance of some waste gases and the recovery of chemicals from them. His paper will be published in the November number of PACIFIC PULP AND PAPER INDUSTRY.

The second talk dealt with problems created by recent federal legislation. Otto A. Hartwig, adviser and consultant on unemployment compensation and social security problems to the Crown Zellerbach Corporation, Rayonier Incorporated and Fibreboard Products, Incorporated, spoke on "The Fair Labor Standards Act of 1938 and Other Social Security Legislation." Mr. Hartwig's paper is published in full in this issue.

● N. W. Coster, chairman of the Pacific Section of TAPPI and technical director of the Soundview Pulp Company of Everett, presided at the meeting. He called the attention of those present to the value of membership in TAPPI nationally and sectionally and suggested that those interested in obtaining the benefits of membership communicate with J. V. B. Cox, secretary-treasurer of the Pacific Section. Mr. Coster also spoke of the Section's recently announced Shibley Award for the best paper presented by a mill man during the 1938-1939 meeting series and urged the younger men in the industry to compete for it. He reminded the meeting that the executive committee of TAPPI meeting at Green Bay early in September had accepted the Pacific Section's invitation to hold the national Fall Meeting in Seattle in 1940. Announcements of committee chairman will be made shortly and plans made well in advance to attract the largest possible number of pulp and paper men to Seattle and the Pacific Coast for the meeting. The first national TAPPI meeting was held in Portland, Oregon, in September of 1934, was well attended and served to more fully acquaint those in the industry in the Middle West and East with the industry on the West Coast.

Chairman Coster called on A. D. "Dad" Wood, in charge of sulphite production at Camas, as the Mayor of Pumpkin Center. Mr. Wood replied that his newly adopted "home town" was a fine place to live and he expected the federal government would soon establish a post office there to take care of the flood of mail he has been receiving since this journal announced he was living in Pumpkin Center a couple of months ago. He remarked that the apples grown there made the finest cider he had ever tasted.

G. S. Brazeau, manager of the Everett mill, Pulp Division, Weyerhaeuser Timber Company and a member of the national executive committee of TAPPI, spoke of the Fall meeting in Green Bay which he attended with Albert Bankus, vice-president of the Crown Zellerbach Corporation, also a member of the executive committee. Mr. Brazeau told how men in the industry and their families were still talking enthusiastically about the 1934 meeting held in Portland. He said that that meeting had done much for the Coast and he urged the members of the Pacific Section to put their shoulders to the wheel to make the 1940 national meeting in Seattle equally successful.

● The following men registered at the Portland dinner meeting, October 4th:

● C. E. Ackley, Hawley Pulp & Paper Co., Oregon City; B. R. Adams, Hawley Pulp & Paper Co., Oregon City; C. R. Adams, Longview Fibre Co., Longview; G. A. Alkins, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; Evald Anderson, Western Precipitation Corp., Los Angeles.

● R. G. Armstrong, Longview Fibre Co., Longview; J. Ashby, Westminster Paper Co., New Westimnster, B. C.; L. E. Ashe, Longview Fibre Co., Longview; F. C. Ed Baker, Weyerhaeuser Timber Co., Timber Division, Longview; W. R. Barber, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; R. V. Bingham, Bingham Pump Co., Portland.

● Carl Blom, Bingham Pump Co., Portland; Carl E. Braun, Hawley Pulp & Paper Co., Oregon City; G. S. Brazeau, Weyerhaeuser Timber Co., Pulp Division, Everett; John E. Brown, Pacific Pulp & Paper Indutary, Portland; G. W. Charters, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; R. E. Chase, R. E. Chase & Co., Tacoma.

● Claud Christiansen, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; Wm. W. Clarke, Longview Fibre Co., Longview; R. P. Conklin, Weyerhaeuser Timber

●

Next TAPPI Dinner November 10th

The second TAPPI Dinner Meeting will be held THURSDAY evening, November 10th, in the Monte Cristo Hotel, Everett, Washington. The time is 6:30 p. m.

This meeting was originally scheduled for Tuesday, November 8th but was changed as the 8th is election day.

The speakers for the evening will be announced shortly.

Co., Timber Division, Longview; C. A. Corman, Weyerhaeuser Timber Co., Timber Division, Longview; N. W. Coster, Soundview Pulp Co., Everett; J. V. B. Cox, Hercules Powder Co., Portland.

• E. G. Drew, J. O. Ross Engineering Corp., Portland; Arthur Erickson, Weyerhaeuser Timber Co., Pulp Division, Longview; John T. Evans, Weyerhaeuser Timber Co., Pulp Division, Longview; Carl Fahlstrom, Longview Fibre Co., Longview; B. W. Farnes, Control Equipment Co., Portland; Lyle G. Fear, Westinghouse Electric & Mfg. Co., Portland.

• James D. Fraser, Weyerhaeuser Timber Co., Pulp Division, Everett; Harry Fromong, Hawley Pulp & Paper Co., Oregon City; Irving R. Gard, Merrick Scale Mfg. Co., Seattle; T. H. Grant, Columbia River Paper Mills, Vancouver; J. E. Hanny, Crown Willamette Paper Co., Division Crown Zelelrbach Corporation, Camas.

• O. R. Hartwig, Crown Zellerbach Corporation, Portland; John E. Hassler, Coast Mfg. & Sales Co., Portland; R. S. Hatch, Weyerhaeuser Timber Co., Pulp Division, Longview; S. Hazelquist, Weyerhaeuser Timber Co., Pulp Division, Longview; Harland R. Hever, Weyerhaeuser Timber Co., Pulp Division, Longview.

• W. S. Hodges, Appleton Wire Works, Portland; J. G. Hoffman, Jr., J. O. Ross Engineering Corp., Portland; Geo. W. Houk, Hooker Electro-Chemical Co., Tacoma; W. F. Hynes, General Electric Co., Portland; J. H. Hull, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; Joe G. Jenkins, Hawley Pulp & Paper Co., Oregon City; L. Johnson, Hawley Pulp & Paper Co., Oregon City.

• W. A. Kelly, Waterbury Felt Co., Portland; W. N. Kelly, Weyerhaeuser Timber Co., Pulp Division, Longview; S. B. Lewis, Weyerhaeuser Timber Co., Pulp Division, Longview; J. G. Long, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; A. H. Lundberg, Seattle; R. V. Maier, General Electric Co., Portland.

• M. L. Mammen, Crown Zellerbach Corporation, Portland; W. C. Marshall, Pacific Coast Supply Co., Portland; Robert Martig, Control Equipment Co., Portland; G. H. McGregor, Weyerhaeuser Timber Co., Pulp Division, Longview; H. Norman Miller, Westinghouse Electric & Mfg. Co., Portland; R. G. Mispley, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; G. F. Mitchell, Hesse-Ersted Iron Works, Portland.

• T. E. Moffitt, Hooker Electrochemical Co., Tacoma; T. H. Moran, Weyerhaeuser Timber Co., Pulp Division, Longview; C. W. Morden, Morden Machines Co., Portland; Harry Morgan, Weyerhaeuser Timber Co., Timber Division, Longview; M. E. Norwood, Columbia River Paper Co., Vancouver.

• F. A. Olmsted, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; C. J. Page, Longview Fibe Co., Longview; J. W. Peckham, The Bristol Co., Seattle; Morris M. Peterson, Weyerhaeuser Timber Co., Pulp Division, Longview; Frederic M. Pape, Wilson & Geo. Meyer & Co., Seattle.

• Al Raught, Weyerhaeuser Timber Co., Timber Division, Longview; Ralph Reid, Spaulding Pulp & Paper Co., Newberg; H. H. Richmond, Electric Steel Foundry Co., Portland; Dewey Rigg, Longview Fibre Co., Longview; W. Q. Reiniger, Longview Fibre Co., Longview; J. W. Robinson, Leeds & Northrup Co., San Francisco.

• J. P. Rubush, Swenson Evaporator Co., Chicago; Harlan Scott, Pacific Pulp & Paper Industry, Seattle; Chas. M. Sever, Appleton Woolen Mills, Portland; A. W. Shaw, Ingersoll-Rand Co., Portland; C. Sholderbrand, Hawley Pulp & Paper Co., Oregon City.

• D. L. Shirley, Link-Belt Co., Portland; J. L. Shively, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; I. C. Shotwell, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; A. P. Siebers, Longview Fibre Co., Longview; Ray Smythe, Portland; P. E. Sullivan, Ingersoll-Rand Co., Seattle; George L. Tepley, Eagle Metals Co., Seattle.

• Earl G. Thompson, Great Western Electro-Chemical Co., Seattle; W. E. Thompson, Longview Fibre Co., Longview; C. L. Triplett, Hawley Pulp & Paper Co., Oregon City; H. A. Vernet, A. E. Staley Mfg. Co., Portland; Harold C. Wall, Longview Fibre Co., Longview.

• Wm. T. Webster, St. Regis Kraft Co., Tacoma; L. H. Wear, Taylor Instrument Co., Portland; Bernhardt Weidenbaum, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; Fred J. Welebe, Hawley Pulp & Paper Co., Oregon City.

• R. S. Wertheimer, Longview Fibre Co., Longview; Boyd K. Wickwire, Longview Fibre Co., Longview; A. D. Wood, Crown Willamette Paper Co., Division Crown Zellerbach Corporation, Camas; Edward C. Wood, Weyerhaeuser Timber Co., Pulp Division, Longview.

Japan Importing More British Columbia Logs

• Japan may not be buying much pulp or newsprint in the British Columbia market these days, but she is still importing logs from that province, even though the figures are considerably lower than in the years preceding the Sino-Japanese conflict.

This year, however, shows a considerable increase in B. C.'s log exports to Japan. To the end of September a total of 14,499,000 board feet, chiefly hemlock, had been shipped to Japan, compared with 11,339,000 of all species in 1937. About 5,000,000 feet more of hemlock has so far been shipped this year than in 1937.

In 1936, before the outbreak of war in the Far East, British Columbia shipped 66,000,000 feet of logs to Japan. In 1934 the total export was more than 87,000,000 feet.

Hemlock Log Imports Reach High Point of Year

September Imports From British Columbia Highest Since December, 1937, Reflects Improved Pulp and Paper Mill Operation

• Increased activity in the pulp and paper industry around Puget Sound is reflected by the importation of 6,007,000 board feet of hemlock logs during the month of September.

This is the largest importation during any one month since December, 1937, when the total was but slightly higher, 6,167,896 board feet.

September, 1937, imports were 5,369,925 board feet while those in October of last year were 7,323,650 board feet.

The low point of the present year was April with imports of but 59,000 board feet compared with 2,756,452 board feet in April of 1937.

Newcraft Pulp & Paper Corporation Formed in Oregon

• The Newcraft Pulp & Paper Corporation was organized in Oregon during September, the incorporation papers filed at Salem being signed by attorneys Cookingham & Hanley and Wm. L. Brewster of Portland.

Capitalization was for $2,500. The corporation's purpose was not given.

Chase Bag Company Building Portland Plant

• The Chase Bag Company, one of the largest bag manufacturers in the United States, has purchased property in Portland, Ore., at N.W. 26th and Nicolai Sts., and will construct a building in which to manufacture cotton, burlap and specialty paper bags.

The company will not produce a general line of paper bags, but will specialize in "Saxolin" bags, an open mesh bag originated by this firm. The new plant will spin the paper yarn and weave the bags, which are primarily used for produce such as onions.

The only other paper product will be crinkled paper liners for bags and barrels. Present plans do not inculde the manufacture of cement bags, although the company does produce these in the East.

Officials of the company state they expect to use Pacific Coast paper in the products made here.

Date for actual start of construction work has not yet been set.

Harry Pim to Make World Trip

• Harry Pim, export manager for Pacific Mills, Ltd., will leave the middle of November on a round-the-world trip in in the interests of the company. He will visit Australia, New Zealand, South Africa, and finally England. The trip will require seven or eight months.

Harold Cavin Returns From Three Months in Europe

Pacific Coast Engineer Reports That the Majority of the Mills in Sweden, Finland and Norway Are Taking Advantage of Present Slack Period to Modernize Equipment

● Harold D. Cavin of the Seattle firm of consulting engineers, Cavin, Marshall & Barr, returned to the Pacific Coast September 20th completing an extensive trip to the Scandinavian countries begun June 21st. Mrs. Cavin accompanied her husband on the trip which was for the purpose of studying the design, construction and operation of pulp and paper mills in Sweden, Finland and Norway.

Originally they planned to visit Germany and Czechoslovakia but the recent war scare caused them to spend their entire time in Europe visiting in the three countries mentioned.

Everywhere the people were most friendly and hospitable, and much interested in the Pacific Coast.

While Mr. Cavin was there the pulp industry began to feel the full effects of the world wide decline in paper production and he found that none of the Swedish pulp mills were running full.

Many were carrying on construction programs planned during 1937 but held in abeyance while the mills were running at full speed. Now they are taking advantage of the slack period to modernize their plants and to expand certain departments.

● The Scandinavian industry is going stronger to bleached pulps both sulphite and sulphate, according to Mr. Gavin's observations. This trend was shown by the number of new bleach plants being built and the expansion of existing bleach plants. He didn't hear of any new mills being planned for construction in Sweden. The three planned for building this year in Finland have been temporarily held up until the industry's prospects improve.

Mr. Cavin spent some time in Stockholm with Karl Blomgren, prominent Swedish pulp and paper mill engineer. He also visited the large plants of A. B. Svenska Flaktfabriken makers of the Flakt dryer and discussed engineering matters with their engineers.

Included in his mill visits in Sweden was a call at the oldest sulphite mill in Sweden, the Bergvik mill where Carl Daniel Eckman manufactured the first commercial sulphite in 1874 by putting into practice the ideas developed by Benjamin C. Tilghman of Philadelphia and patented in 1866 and 1867.

The Bergvik mill is maintained as a museum with much of the old equipment still in place. Mr. Cavin took a picture of Bergvik which is reproduced on this page.

Among the mills visited in Sweden, Finland and Norway were the following:

● IGGESUND BRUK—this mill recently installed a new pyrites burner. Y. Sundblad is engineer and Gunnar Sundblad is managing director. STROM BRUK — producer of bleached sulphite. Just installed a Rosenblad heat and SO 2 recovery unit. OSTRAND — One of the largest unbleached kraft mills in Sweden with 140,000 tons annual capacity and four Flakt dryers. UTANSJO — This sulphite pulp mill is building a new bleach plant and carrying on other construction work.

HAROLD D. CAVIN
Inspected Scandinavian Mills

● MO OCH DOMSJO — Producer of 43,000 tons of rayon grades. Put in a new Pulp Bleaching system in 1937. KOPMANHOLMEN — Owned by Forss. Building a new bleach plant for both sulphite and sulphate, Kamyr system.

● OHRVIKEN — Carl Everitt is engineer. He is well known on the Coast as he was superintendent of the Anacortes mill of the Puget Sound Pulp & Timber Company.

● KARLHOLM — This is a new board mill producing a new type of porous board having high insulating value. UDDEHOLMS and SKOGHALL were other mills visited.

In Finland Mr. Cavin visited OULU, a large unbleached kraft pulp mill. JAKOBSTAD — An unique unbleached sulphite pulp mill. KAUKAS — An unbleached kraft pulp mill lately completely modernized.

● KYMMENE — Installed a new pyrites burner. This is the largest producer of paper and sulphite pulp in Finland.

● ENSO — Have just finished a new bleach plant and are building an addition to the power plant. Producer of bleached kraft.

SUNILA—The newest pulp mill in Finland.

● In Norway Mr. Cavin saw the KROGSTAD mill where a new Kamyr bleaching plant has been installed. While there he went through the machinery plant of Myrens Verkstad and also the Kamyr plant.

In Finland he inspected the large 150,000 horsepower hydro-electric project at Imatra which supplies power to a number of pulp mills including Enso Gutzeit, to steel mills and other industries.

His trip included all the important mills in Sweden and Finland and a number of the plants making equipment for the pulp and paper

industry. Everywhere he went, Mr. Cavin says he met with the most cordial reception. Both Swedish and Finnish operators showed much interest in the Pacific Coast. The Swedish pulp industry is concerned with the growth of pulp manufacturing on the Pacific Coast while the Finns are worried more about the development in the Southern states in kraft production. Swedish and Finnish mills are well kept up and maintained in a modern efficient operating condition.

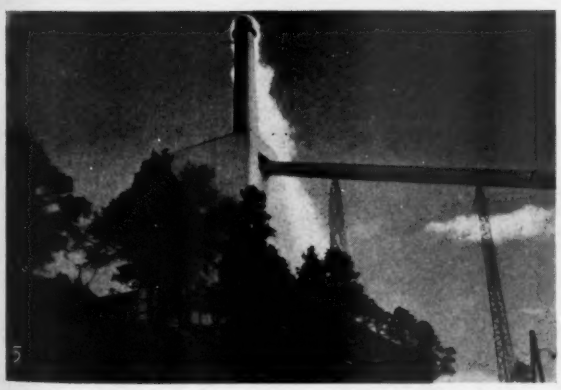
Before leaving New York for

1

2

3

4


5

6

EUROPEAN MILL DESIGN and CONSTRUCTION DIFFER FROM AMERICAN PRACTICE

These pictures were selected from among those taken by HAROLD D. CAVIN, consulting engineer, on his recent trip to Sweden, Finland and Norway to show apparent differences in design and construction compared to North American plants.

At the SUNILA mill in Finland (No. 1) the salt cake conveyor is supported by very light steel work but of adequate strength. No. 2 is another SUNILA picture showing the wood conveyor system ' ' ' Note the tower is of reinforced concrete ' ' ' A sling arrangement from the tower picks up wood from the river below (16 cords at a time) and drops it through the tower into a dump car at the base ' ' ' The car runs to a warm water soaking pond where the wood is soaked before barking in drums ' ' ' Short wood conveyor in the foreground.

No. 3, The BERGVIK mill is the oldest sulphite pulp mill in Sweden ' ' ' Here Carl D. Eckman made the first commercial sulphite pulp in 1874 ' ' ' No. 4, Interesting design of the sulphur storage bins at the JAKOBSTAD sulphite pulp mill in Finland which was built in 1935 ' ' ' Produces 42,000 tons of strong sulphite pulp annually.

No. 5, shows the light construction supporting the chip conveyor at SUNILA in Finland ' ' ' This is the newest Finnish unbleached kraft pulp mill, having started this year ' ' ' Capacity is 80,000 tons per year. No. 6 pictures the KAUKAS unbleached kraft mill in Finland which was enlarged this year ' ' ' Note the modern building design.

Europe, Mr. Cavin flew to Toronto to attend the annual convention of the American Pulp and Paper Mill Superintendents Association of which he is a member. He also went to Three Rivers, Quebec, to see the pyrites burning equipment operating in the plant of the Consolidated Paper Corporation.

The firm of Cavin, Marshall and Barr completed their work on the new unbleached sulphite pulp mill for the Puget Sound Pulp & Timber Company at Bellingham, Washington, in May of this year and soon afterward opened offices at 1215 Exchange Building in Seattle.

●

Pulp, Paper Makers Win Labor Day Parade Prizes

● Winning prizes in Labor Day parades in Camas and Port Angeles, Washington, were divided between the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite & Paper Mill Workers.

In the Clark County parade the paper makers from the Camas mill of the Crown Willamette Paper Company, Division of the Crown Zellerbach Corporation, took the first prize money of $20 with a float made up of a paper house and yard and a slogan, "Through the Production of Paper We Maintain Our Homes."

Judges of the Port Angeles Labor Day parade awarded first prize to the Pulp, Sulphite Local 155 of Rayonier Incorporated, Port Angeles Division, Washington Pulp & Paper Corporation, Division of Crown Zellerbach Corporation and of Fibreboard Products Incorporated, for their well planned and executed float of a paper machine. The rolls on the machine turned and the paper emerged at the dry end. Paper makers worked busily about the machine.

At Camas the float of the Pulp, Sulphite union proved too fragile for the bumping of the truck upon which it was built. This float did not get into the parade and hence did not compete, was made of napkins, bags and toilet tissue.

Court Dissolves Palouse Pulp & Paper Company

● Dissolution of the Palouse Pulp & Paper Company, organized about ten years ago for the manufacture of paper from straw and other materials, was ordered early in September by the superior court at Colfax, Washington.

Allen Lamphere, appointed receiver on petition filed in April, 1937, had a balance of $425 on hand after claims of creditors and attorney fees had been paid, which is to be applied on the state's claim of $1,010 for license tax.

The company's capitalization was for 15,000 shares of preferred stock at $10 per share, and of this only $9,026 worth was sold, and all but $447 was used for promotion according to press reports of the court's action. Common shares in the amount of 15,000 shares, no par value, were given to H. D. Wagnon for a patented formula for the manufacture of paper from straw.

Australian Pulp Situation

● There is only one pulp mill in Australia which has commenced production at this time. This is a small pilot mill capable of turning out 3,000 long tons of pulp annually. It has been erected by the Australian Paper and Pulp Company, Limited, and the company is usin git to get experience for a larger pulp mill now in course of construction. This larger mill which is expected to come into operation at the end of 1939 or the early part of 1940, will eventually produce between 25,000 and 30,000 long tons of pulp annually, by the sulphite process.

Another mill is being constructed by the Associated Pulp and Paper Mills, Limited, which is designed to manufacture wood pulp by the soda process. The pulp will be utilized in a plant which the company is erecting for the production of approximately 15,000 tons annually of fine printing and writing paper.

The total imports of wood pulp into Australia during the fiscal year ended June 30, 1937, amounted to 48,439 long tons.—Offive of the American Trade Commissioner, Sydney.

● Australian Newsprint Mills, Ltd., with a capital of more than $5,000,000, will have its Tasmanian plant ready for operation in 1942. An experimental shipment of Tasmanian wood was sent to the Ocean Falls plant of Pacific Mills, Ltd., some time ago and it was found that, when combined with British Columbia pulp, a serviceable newsprint could be produced. However, the cost would be excessive in the competitive market without a bonus, and so the government launched its bounty scheme.

The program will not affect the long-term contract negotiated with seven Canadian newsprint mills last year by William Dunstan, representing Australian publishers. Under the terms of this contract the Canadian mills undertook to supply up to 175,000 tons yearly at a cost based on the prevailing New York price. Both Powell River Company and Pacific Mills, B. C. manufacturers, share in this business.

At present the Australian and New Zealand publishers are consuming about 200,000 tons of newsprint annually, of which Australia takes around 175,000 tons. The tonnage is being pro-rated among the seven producing mills on the basis of the tonnage each operator shipped to the Australian-New Zealand market during the last five years.

The Australian-New Zealand group has guaranteed to take at least 75 per cent of requirements from Canadian mills. The Sydney and Melbourne Herald groups will require 140,000 short tons yearly and will use only Canadian newsprint until such time as the Tasmanian mill comes into production. The latter groups have a financial interest in the Derwent Valley development.

Camas Foremen's Club Holds Meeting

● Some 50 foremen and sub-foremen of the Camas mill of the Crown Willamette Paper Co., division of Crown Zellerbach Corporation, held a dinner meeting the evening of October 6. Vic Gault, personal manager, presided at the gathering. Martin Mammen and Otto Hartwig of the Portland office were among the guests. A feature of the meeting was a discussion of human relations and plant operating problems.

▼

Pulp and Paper Employment In the State of Washington

Graphs Show Growth and Stability Compared With Other Northwest Industries

● In the State of Washington the Pulp and Paper industry has seen a great growth in the past thirteen years, both in actual figures and in relation to other industries. New Pulp and Paper mills have been built and older mills have increased their production.

As will be noted from Chart No. 1 the man hours, or volume of employment, in the Pulp and Paper industry, using 1931 to 1935 as a base of 100, has increased from an index of 50 in 1925 to 125 in 1930. Following this year, with the severe curtailment which faced all industries as well as the pulp and paper industry, the volume of employment fell off in 1931 to around 105, and in 1932 to 83. Beginning with 1933 the volume of employment increased gradually from approximately 90 to 150 in 1937.

The curve of employment for all industries in the state of Washington, was at a much higher rate for the six years prior to 1931, in relation to the 1931-1935 average. The decline from 1930 to 1932 was more severe than in the Pulp and Paper industry. The increase during 1933 to 1937 was somewhat less, relative-

ly, than in the Pulp and Paper industry.

In the logging and sawmill industries the average of employment for 1931 to 1935 was seriously below that of previous years. Following the years 1929 and 1930 the volume of employment dropped precipitously until by 1932 these industries had reached a low of 70 for the logging industry and 84 for the saw mill industry, again using the average for 1931 to 1935 to represent 100. In the years 1933 to 1937 inclusive increase in employment for these two industries has been following the general trend of all industries. It will be noted, however, that the curve of employment in these years in these industries is somewhat irregular. This is due to both market and labor conditions.

• Another question of interest is the ratio of employment in the pulp and paper industry to all industries. As indicated in chart No. 2 the ratio of man hours in the pulp and paper industry to all industries is very small even at the highest point in 1934. In 1925 it represented less than 1½ per cent and at the peak year 1934 slightly over 4 per cent.

Because of construction of new pulp and paper mills and the increase in production in older mills the ratio of man hours in the pulp and paper industry to all industries, increased substantially between the years 1925 and 1930. In a measure which cannot be determined, part of this increase was undoubtedly due to falling off of production in industries other than pulp and paper.

As a whole, workers in the Pulp and Paper industry have been faced with less drastic fluctuation in employment than workers in either the logging or saw mill industry or in all industries as a whole. At no time has the volume of employment in the pulp and paper industry varied more than 50 points from the 1931-35 average, whereas in logging the fluctuation was previously as high as 220 points over this average.

Compared with 1929, the 1937 volume of employment in all industries was down approximately 6 per cent; in logging, down approximately 41 per cent; in sawmills, down approximately 47 per cent; and in pulp and paper, up approximately 33 per cent.

McKeever Receives 40-Year Pin

• On September 16, Louis Bloch, chairman of the Crown Zellerbach Corporation, presented Charles McKeever with his 40-year service pin. Mr. McKeever is lubricating engineer at the Camas plant.

At the dinner of the Foremen's Club at Camas on October 6, 20-year pins were presented to Gilbert Garland, of the wet room; Clarence Osborne, mechanic in the converting plant, and to Tom Alder, night clean-up man in the bag factory.

CHART No. 1

State of Washington
Changes In Volume of Employment
Average 1931 to 1935 = 100

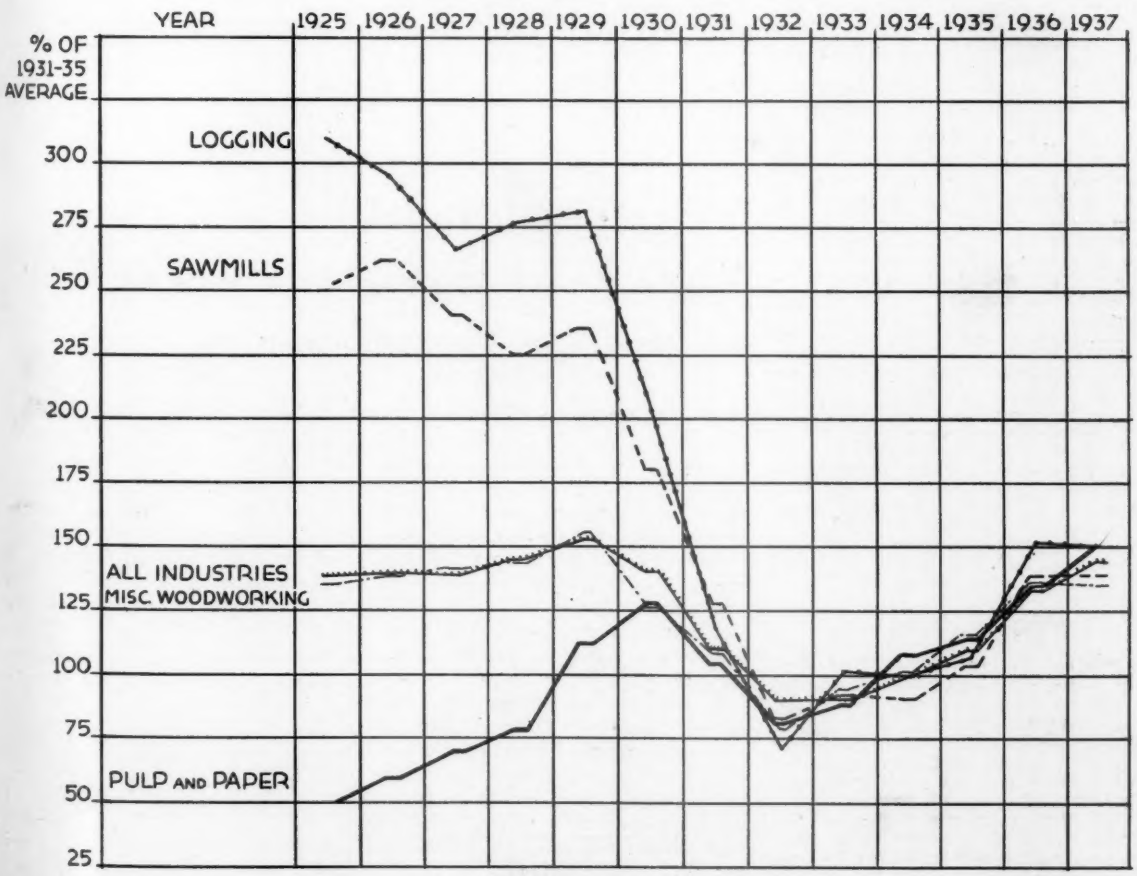
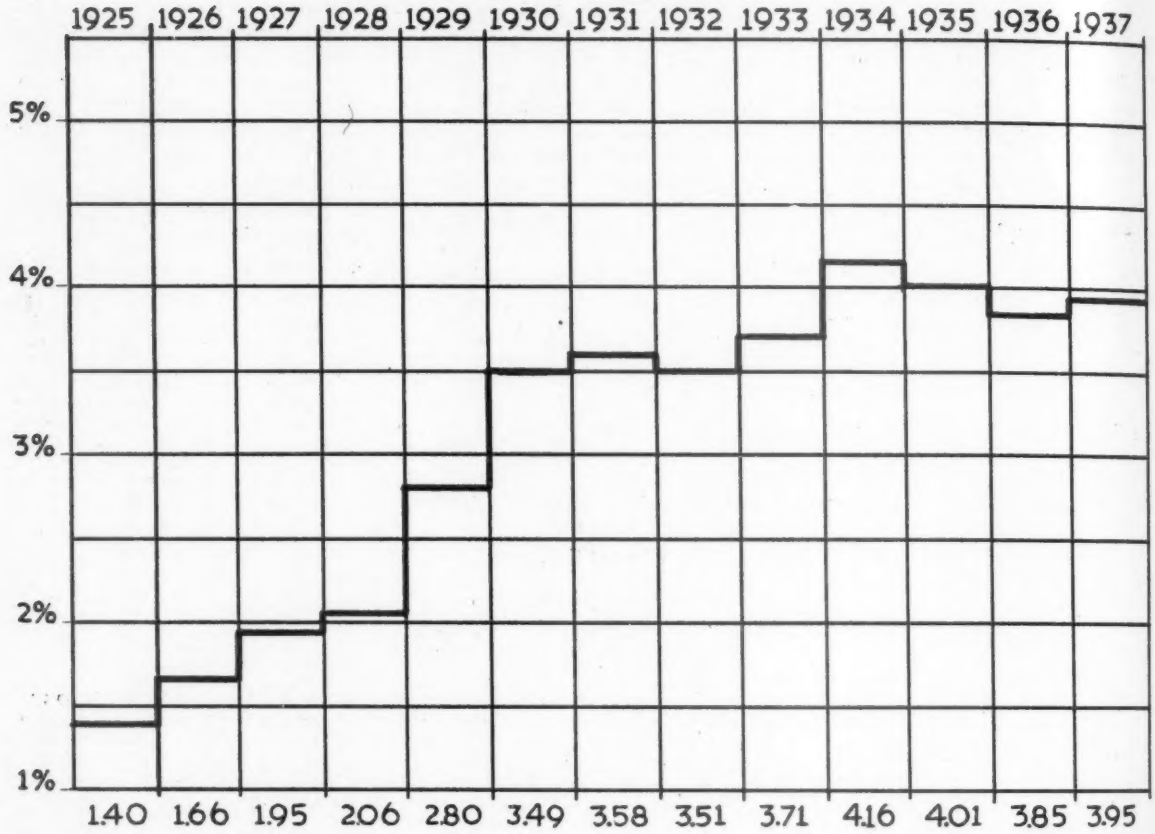


CHART No. 2
State of Washington
Ratio of Man Hours Worked in Pulp and Paper Industry to Man Hours Worked in All Industries



A. B. Clark Visits Mills With E. G. Drew

● A. B. Clark, president of the J. O. Ross Engineering Corporation of New York arrived by plane the latter part of September for a several weeks' visit with E. G. Drew, Pacific Coast representative whose headquarters are in Portland.

Mr. Clark and Mr. Drew visited a number of pulp and paper mills where much Ross equipment is installed. J. O. Ross Engineering Corporation specialize in the design and installation of heating, ventilating and air conditioning systems in pulp and paper mills. After a trip extending from British Columbia into Southern California Mr. Clark took a plane from Los Angeles for New York City.

Camas Chemist Prepares Paper for TAPPI

● Herbert Prelinger, research chemist at the Camas mill of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, and a member of TAPPI, prepared a paper for the Fall meeting of TAPPI at Green Bay, Wisconsin, September 8th-10th.

Mr. Prelinger discussed "The Washing of Bleached Sulphite and the Introduction of a New Method for Its Control." The paper was read by title.

Washington Mills Steadily Reducing Accident Rates

Safety Work Bringing Reductions All Along the Line

● A report recently released by the Department of Labor and Industries of the State of Washington discloses some interesting and gratifying facts about the progress made in the pulp and paper mills in the state in reducing costs and claims under the Workmen's Compensation Law.

Covering a five-year fiscal period, figures are given for the same fiscal period of 1937, as well as for the calendar year 1937. It discloses a steady trend toward lower and lower accident experience rates, resulting from steadily decreasing claim costs. It reflects the efficacy of the strong safety program carried on by the industry in recent years.

Several remarkable records are shown in the tabulation, notably that of Fibreboard Products, Inc., at Sumner, Maintaining a cost rate of .0644 cents per hour during the five-year period, this was reduced to .037 cents per hour in 1937, resulting in a reduction in experience rate from .49 cents in 1937 to .28 cents in 1938.

St. Regis Kraft Co. cut their experience rate in half for 1938 by earning a reduction from .84 cents to .42 cents. In nearly all cases, a substantial reduction was earned by all mills through lower claim costs in the fiscal year 1937.

Details of the records are given in the accompanying table.

PULP AND PAPER MILL OPERATIONS IN WASHINGTON

Name of Firm—	FIVE YEAR FISCAL PERIOD September 1, 1933, to August 31, 1937					FISCAL YEAR 1937 September 1, 1936, to August 31, 1937					CALENDAR YEAR 1937				
	No. Years Operated	Workmen Hours	Claim Costs	Cost Rate Cts. Per Hr.	Experience Rate—1938	Workmen Hours	Claim Costs	Cost Rate Cts. Per Hr.	Experience Rate—1937	(1936) Cost Rate Per Hr. Fiscal Yr.	Workmen Hours	Claim Costs	Cost Rate Cts. Per. Hr.	Premium Due At Earned Experience Rate	Cost Ratio Group
Pacific Paper Materials Co.	5	88,106	nil	nil	.24c	15,392	nil	nil	.40c	nil	15,271	nil	nil	$61.08	(A)
Tumwater Paper Mills	5	41,802	nil	nil	.24	8,740	nil	nil	.28	nil	8,740	nil	nil	24.47	(A)
Fibreboard Products, Sumner	5	1,040,499	$670.30	.0644	.28	185,120	70.20	.0379y	.49	.0139	178,907	$106.50	.0595	876.64	(B)
Pacific Coast Paper Mills	5	193,271	318.35	.1647	.34	35,373	103.75	.2913	.36	.2017	32,968	97.40	.2954	118.68	(C)
Everett Pulp and Paper Co.	5	4,524,880	11,365.18	.2512	.39	1,123,544	2,564.20	.2282xy	.42	.6239	1,026,337	1,694.25	.1651z	4,310.62	(E)
Natl. Paper Products, Port T.	5	4,403,042	11,518.95	.2616	.40	917,295	1,374.80	.1499xy	.46	.3967	892,196	1,421.90	.1594z	4,104.10	(E)
Soundview Pulp Co., Everett	4	2,426,040	6,892.30	.2841	.41	952,201	2,026.10	.2128xy	.48	.5826	1,112,035	2,361.90	.2124z	5,337.77	(F)
Pacific Straw Paper & Board Co.	5	1,104,831	3,265.57	.2956	.42	240,592	60.65	.0252xy	.56	.5601	227,149	177.65	.0782z	1,272.03	(F)
St. Regis Kraft Co.	5	549,850	1,649.05	.2999	.42	420,257	1,192.00	.2836y	.84	.0172	524,098	3,120.80	.5955	4,402.42	(F)
Weyerhaeuser Tim. Co., Everett	3	1,171,571	4,435.95	.3786	.47	785,282	3,290.00	.4190	.46	.2799	784,575	5,283.90	.6735	3,609.05	(G)
Crown Zellerbach Paper Corp.	5	11,091,416	43,944.91	.3962	.48	2,519,508	9,258.05	.3675xy	.54	.4103	2,432,900	6,801.75	.2796z	13,137.66	(H)
Rayonier Incorporated, Shelton	5	4,111,106	16,478.62	.4008	.48	1,035,022	1,354.20	.1308xy	.60	.4287	1,087,650	1,524.70	.1402	6,525.90	(H)
Fibreboard Products, Port. Ang.	5	1,907,661	8,024.76	.4207	.49	445,407	1,545.65	.3470xy	.55	.3970	431,283	1,129.60	.2619z	2,372.06	(H)
Inland Empire Paper Co.	5	2,733,284	12,359.15	.4522	.51	705,834	2,210.60	.3132y	.63	.2082	689,489	5,874.35	.8520	4,343.78	(I)
Columbia River Paper Mills	5	2,570,892	13,323.22	.5182	.55	648,787	1,976.00	.3046xy	.90	1.4366	658,797	2,072.75	.3146z	5,929.17	(J)
Rayonier Inc., Hoquiam	5	5,031,018	28,912.53	.5747	.58	1,313,397	7,067.90	.5381y	.63	.3765	1,294,992ex	11,168.30	.8624	8,158.45	(K)
Longview Fibre Company	5	6,456,794	37,404.73	.5793	.59	1,485,991	8,886.30	.5980	.64	.3626	1,422,382	6,552.15	.4606z	9,103.24	(K)
Wash. Pulp & Paper Corp.	5	4,037,008	32,621.78	.8081	.72	909,188	2,814.35	.3095xy	.89	.3869	923,671	3,301.25	.3574	8,220.67	(O)
P.S. Pulp & Tim., Bellhm., Ana.	5	2,839,447	27,323.73	.9623	.82	572,982	3,246.45	.5666xy	.90	1.0125	541,073ex	5,917.05	1.0936z	4,869.66	(R)
Weyerhaeuser Tim. Co.,Longview	5	2,491,957	24,442.20	.9808	.83	607,979	5,004.65	.8232y	.89	.3534	608,206	6,380.55	1.0491	5,418.03	(R)
Rayonier Inc., Port Angeles	5	3,744,984	40,770.89	1.0887	.89	969,988	2,225.70	.2295xy	1.07	.8225	951,146	1,160.45	.1220z	10,177.26	(T)
Shaffer Pulp Co.	5	1,059,260	20,276.50	1.9142	.96	395,526	13,390.30	3.3854	.85	1.5587	461,698ex	12,600.20	2.7291	3,924.43	(ZZ)
International Pulp Co.	5	130,664	3,216.75	2.4618	.96	27,100	947.70	3.4970	1.12	.0475	21,205	1,023.80	4.8281	237.67	(ZZZ)
		63,749,383	349,215.42	.5478c		16,320,505	$70,608.85	.4326		.5069c	16,326,768(a)	$79,771.20	.4886	$106,529.67	
												3,639.72(b)			
												$83,410.92	.5109c		Actual cost rate per hour.

NOTES: (1) In column "Number Years Operated," five (5) means five or more years.

(2) Marginal letter indicates cost ratio group of each firm based upon its cost rate for the five year fiscal period ending August 31, 1937. Cost ratio groups are expressed in percentages of the basic class rate as follows: (A) 0 to 10%; (B) 11 to 20%; (C) 21 to 30%; (E) 41 to 50%; (F) 51 to 60%; (G) 61 to 70%; (H) 71 to 80%; (I) 81 to 90%; (J) 91 to 100%; (K) 101 to 110%; (O) 141 to 150%; (R) 171 to 180%; (T) 191 to 200%. (ZZ) and (ZZZ) had cost ratios of 349% and 449% respectively.

(b) Excess of reserves set aside for pension claims, over the $4,500.00 merit rating charge made against a firm for each fatal or total permanent disability pension claim. It should be noted that the average cost rate per hour of the entire class for the calendar year 1937 by using the $4,500.00 merit rating charge for fatal claims and total permanent disability pension claims was .4886c, while the actual cost rate per hour was .5109c.

(x) For the fiscal year ending August 31, 1937, eleven firms had cost rates lower than during the preceding fiscal year. These firms reported 10,334,514 workmen hours or 63.32% of the total number of hours reported in the class.

(y) Sixteen fims had lower cost rates for the fiscal year ending August 31, 1937, than during the five year fiscal period ending the same date. These sixteen firms reported 13,567,101 workmen hours or 83.13% of the total number of workmen hours reported for the entire class.

(z) Ten firms had lower cost rates during the calendar year 1937 than during the calendar year 1936, said ten firms reporting 9,695,298 workmen hours or 59.38% of the total number of hours reported in the class.

(ex) Firms which had pension claims on which the amount set aside for pension reserves exceeded the merit rating charge of $4,500.00 for each claim.

(a) Actual hours reported for operations during the calendar year 1937. This figure may differ from that in other statements as to the numbe of wokmen hous reported in Class 24-1 (Pulp and Paper Manufacturing) DURING the calendar year 1937.

DEPARTMENT OF LABOR AND INDUSTRIES—R. M. Van Dorn, Statistician.

An Analysis of the Fair Labor Standards Act of 1938 and Other Social Security Legislation

by OTTO A. HARTWIG*

I RESPOND with pleasure to your invitation to discuss briefly the Fair Labor Standards Act of 1938, better known as the Wage and Hours Law, as well as the major Social Security legislation adopted in recent years.

I know of no group with which I would rather meet to discuss these laws than your group. I say this because your membership, I understand, is largely composed of individuals whose duty it is to know the why's and wherefore's, in fact, everything that has any relationship to the materials or products manufactured in your plants. This being true, you are constantly faced with changes in the industry because your profession makes it necessary for you to keep abreast of the times to prevent the processes and many intricate factors having to do with pulp and paper manufacturing from becoming obsolete and uneconomic. In other words, you must be right on top of anything that effects the product in the manufacture of which you play so large and important a part.

As is true in manufacturing processes in which tremendous changes occur from time to time as a result of research, making necessary the resort to rapid changes to keep abreast of competitors, just so, it has become evident and important that certain changes be made in society's approach to industrial or human relations problems arising out of changes in industry.

Someone has said that the reason our manufacturing processes have leaped ahead so rapidly is because the personal profit motive was the great stimulant. The surge of recent social legislation, particularly in this country, has apparently been due to the delay in keeping social legislation and progress in human relations abreast with earlier and constant changes in manufacturing processes, etc., and that the absence of the personal profit motive is responsible for delay in legislation along these lines.

Correcting Disparity

● The adoption of social legislation, therefore, represents an effort on the part of society to bring about a correction of the disparity which exists between the effect of the changes which follow improved industrial and manufacturing processes and the standards of living and code of human relations existing before such industrial changes occurred.

In its attempt to bring about these changes society does not always stop to weigh the effect of the legislation it adopts on individuals whom it affects. This is equally true of industry, broadly speaking, when new and improved processes are introduced because rarely ever is the effect of the introduction of these new processes weighed to determine if they will prove to be an economic or social shock to society.

The results of changed manufacturing processes on the particular product being produced is usually revealed at once when the new process is completed and tried out, but the effect of a change in manufacturing processes on society is often years in being discovered, at least to the point where a remedy to correct the effect suggests itself or becomes imperative. The legislation that I have been asked to discuss at this meeting comes within this category.

The Fair Labor Act

The Fair Labor Standards Act of 1938 is an attempt to put a ceiling over hours and a floor under wages. Viewed in the light of what I have just said, the adoption of this unit of social legislation appears to be an attempt by society to correct the evils arising out of the failure on the part of some employers of labor to revamp the hours and wages in their establishments in line with the requirements of workers who find themselves the victims of changed economic conditions without individual means of controlling the effect of these changes on them personally.

Many workers in this country have attempted to accomplish the same result that society thinks it is accomplishing in this law by organizing into labor unions, and then through their union have made requests on individual employers or entire industries for changes in working conditions, the granting of shorter hours, and more pay. When such requests have been granted the workers immediately involved have solved their problem at least temporarily, and by continuing their request from time to time brought about further changes calculated to keep abreast of the development of the changed industrial and economic conditions in the establishments where they are employed, but even with the tremendous growth which has taken place in the membership of labor unions in recent years, by far the greater number of our working population are still unorganized, and probably always will be because of the very nature of things, and it is largely for the benefit of the unorganized workers that this particular law has been passed.

● The law will go into effect about October 24th, and in general the Act is intended to cover all industries producing goods for interstate commerce. Certain non-industrial pursuits, such as agriculture, fishing, water navigation, air transportation, suburban or interurban trolleys, employees of weekly or semi-weekly

OTTO A. HARTWIG
Talked at TAPPI Dinner

*Adviser and Consultant on Social Security Problems to the Crown Zellerbach Corporation, Rayonier Incorporated and Fibreboard Products, Incorporated. Presented at the Dinner Meeting sponsored by the Pacific Section of TAPPI held at the Heathman Hotel, Portland, Oregon, October 4, 1938.

country newspapers with circulations of less than 3,000, and a number of other occupations are exempted from the Act.

Without burdening you with too much detail concerning who is covered and who is not, I will state that practically every operation represented by someone at this meeting today will probably be subject to some provisions of the law for the reason that the industries you represent are not in the exempted group.

The maximum hour provisions of the law begin with 44 hours per week for the first year, 42 hours per week for the second year, and 40 hours per week thereafter. Overtime beyond these hours is permitted under certain circumstances, provided time and one-half of the regular rate is paid.

Provisions are also made that when an employer and the representatives of his workers who are certified as bona fide by the National Labor Relations Board, make arrangements for hours not provided in the working schedule such arrangements will be recognized as not in violation of the Fair Labor Standards Act of 1938, provided that no worker shall be employed more than 1000 hours in any twenty-six consecutive weeks, or 2000 hours in any fifty-two consecutive weeks; provided, further that any work in excess of twelve hours a day and fifty-six hours a week must be compensated for at the rate of time and one-half.

In industries which have been designated as seasonal by the administrator, workers may be employed twelve hours per day or fifty-six hours a week for not more than fourteen weeks in any calendar year. Employers who are engaged in the first processing of milk, whey, skimmed milk, or cream, into dairy products, and operations of a like nature associated with other products, are exempt from the maximum hour provisions, and the exemption applies to all employees of such employer wherever such work may be done. However, proof will have to be furnished to the administrator that such operations are actually entitled to the exemption provisions of the law before it is safe to assume that they are in the exempted group.

Minimum Wage Provisions

● The minimum wage provisions of the law are briefly as follows:

After Oct. 24, 1938, the floor for wages has been established at not less than 25c per hour and may be higher, if the administrator, following the procedure established in the law, sets a higher rate.

After October 24, 1939, the lowest hourly rate will be 30c per hour and may be higher if so fixed by the administrator.

After October 24, 1945, the low rate will be 40c per hour unless it can be shown that such a rate would substantially curtail employment in the industry to which it is applied.

The law does not grant the administrator any right to establish a higher minimum than 40c per hour, but it does grant the administrator the right, in fact, the law states he must establish as quickly as feasible the highest minimum rate possible; thus, it is conceivable that the administrator will establish a rate in excess of 30c per hour before Oct. 24, 1945, but according to law he must do so on that date.

The law further provides that the administrator must appoint for each industry a committee consisting of an equal number of representatives of employers, workers, and the public, presumably on a country-wide basis. The committee must recommend the highest minimum wage possible for the particular industry for which they function. The committee so appointed can recommend a different minimum wage rate for different operations within an industry, but no rates can be fixed solely on the regional basis or on the basis of age or sex of employees. The committee must consider competitive conditions as affected by transportation, living and production costs and also wages established for work of a comparable character by collective labor agreements, as well as the wages paid by employers who voluntarily maintain minimum wage standards in the industry.

● Should the industry committees appointed as indicated above return with recommendations that in his opinion are unsatisfactory, then the administrator may refer the question back to the same committee for further study, or appoint a new committee to study and report. Without recommendations of the committee, however, the administrator is unauthorized to establish a minimum excepting the basic rates definitely fixed in the law.

Upon showing of satisfactory proof the administrator is authorized to waive minimum standards for learners or apprentices or persons handicapped by age or physical defects, and also for individuals engaged as messengers delivering letters or telegrams, etc.

Child Labor Provisions

● It is made unlawful for a producer, manufacturer, or dealer to ship or deliver for shipment in interstate commerce any goods produced in establishments where oppressive child labor conditions prevail, and oppressive child labor is defined as employment of children under 16 years of age in any occupation so affected, as well as the employment of minors between the ages of 16 and 18 in occupations found to be hazardous by the Children's Bureau. Children under 16 employed in agriculture when not legally required to attend school, or children employed as actors and children working for their parents in any occupation other than manufacturing or mining are exempt from these provisions.

Children between the ages of 14 and 16 may be granted permits for work in occupations other than agriculture and mining if the Children's Bureau of the Federal Department of Labor finds that such employment will not impair their well-being.

The wage and hour provisions of the law will be administered by the administrator appointed for that purpose, and all child labor provisions of the Act are subject to the supervision of the Children's Bureau of the Department of Labor.

The law provides a penalty for violations of a fine not more than $10,000, or imprisonment for not more than six months, or both where the offense warrants.

Workers employed by an employer violating the law will be in a position to collect the difference between the legal wage established and the amount they have been actually paid by the employer violating the law. Also, employees are protected if they report violations or testify against their employer.

The law provides that executives, administrators, professionals, outside salesmen, and employees in retail and service establishments, the greater part of whose business is within the State will be exempt. However, to date no definition has been made which would definitely define what the duties of an executive or administrator might be. In other words, as far as the plants that you gentlemen represent are concerned, there is still doubt as to

whether or not superintendents and foremen and others engaged in supervisory work will be included as executives or administrators.

● While at first glance it may appear that our industry will not be affected by the provisions of the Act because the hour and wage standards common in the industry are more liberal than those provided by the Act, a careful check will probably reveal a number of instances which will require attention to insure conformity with this law, even in our industry. For example, the occasional practice of a tour worker working in excess of 44 hours per week in the absence of his relief, whether for reasons avoidable or unavoidable, or by mutual prearrangement between such worker and his relief worker, may not be continued without a payment of time and one-half for all such hours as he may work in excess of 44 hours per week, particularly in the first effective year.

It is also well to carefully check the hours of clerical and office help to insure conformance with the maximum hour or overtime provisions of the law.

The law provides that any employer or industry or anyone else desiring to appeal from the order of the administrator may obtain a review in the United States Circuit Court of Appeals, but the Court is restricted to review the ruling of the administrator as to his interpretation of the law only, and may not review a finding of fact by the administrator which is supported by substantial evidence. The Appellate Court may in its discretion provide for a stay of the wage order appeal, but such stay shall not be considered by the Appellate Court unless the appellant posts sufficient bond to pay the increase in wages in the event that the wage order is affirmed.

The law provides that every subject employer is required to keep and preserve such record of such wages and hours and to make such reports as may be required by regulation of the administrator. This provision, of course, will probably not be very burdensome to the firms represented here today because such records are already being kept, and any reports which may be required will probably be quite simple, and easily furnished.

The Act further provides that under no circumstances shall the provisions of this law excuse failure on the part of an employer to comply with any federal or state law or municipal ordinance establishing standards of higher wages or lower hours, or higher standards relating to child labor, and the Act further provides that no employer shall be justified in reducing wages or increasing hours of employment now in effect if such hours or wages are already more favorable than the Act provides.

To sum up, therefore, with respect to this law it would appear that to a very large extent our industry is already paying wages away in excess of the minimum standards provided, and likewise, is on an hourly basis more favorable than the maximum provided in the Act, with the exception of, perhaps, supervisors and office workers in whose cases some modification may have to be made to conform to the provisions of this Act. I also believe that the industry is already fully meeting the several child labor provisions of the law, and that so far as operations on the West Coast are concerned, but few changes will have to be made in employment practice to fully comply with the provisions of the Act.

I would urge upon all of you, however, who are engaged in executive supervision to keep yourselves fully advised concerning administrative orders and interpretations of the Act for the reason that, like so much legislation which is passed now-adays, this Act is largely administrative in its nature because the administrator has been granted considerable latitude in interpreting the various provisions of the Act, and, consequently, we must not rely too much on any conclusions we may have reached ourselves after reading and studying the law.

Social Security Legislation

● I shall attempt to give you a brief resume of the Social Security Act adopted in 1935, beginning with some of the reasons why it was proposed, and then its provisions.

The Act contains eleven separate titles, or, I might say, separate laws, all more or less closely related; as a matter of fact, it is intended that each shall supplement or complement the other to a greater or lesser extent.

A Brief Resume of the Reason for the Adoption of the Social Security Act

● A study of business cycles in the United States for more than one hundred years reveals a series of ups and downs above and below what may be considered a normal line or experience. Charts prepared by responsible banking and business statistical concerns are all more or less alike, and show that only once in more than one hundred years has our business in the United States gone to as much as 22 per cent above or plus what is considered normal. It has on any number of occasions dropped below this percentage during the so-called prosperity periods, and frequently has registered in excess of minus 22 per cent during the so-called depression periods. This zigzag above and below the line has been a common experience which many of you will, no doubt, remember, especially those of you who have been in business for a number of years.

When the great decline started in 1929, which I am sure is still fresh in the minds of everyone, we dropped to an unheard of low amounting to minus 48 per cent, and while we climbed back again in 1937 to just above the dividing line called normal, we have since receded to approximately 20 per cent

●

"If study, research and organization have been able to accomplish so much in our business expansion, it would seem possible that study, research and organization can do the same thing for our social order. It would be a sad commentary on the intelligence of our people if we had to confess that, while we have the engineering skill and technique for boring through miles of mountains, for building huge bridges, for impounding waters behind huge dams that challenge the imagination, for translating forests into paper and rayon, we cannot put our social and economic house in order.

"Proper organization based upon facts can, I am sure, devise a system or organization of our social problems so that instead of representing a menace to us they will prove to be a blessing to mankind."

below or minus again during the latter months in 1937 and our more than nine months in 1938.

Students of business conditions, among which are some of the leading business men of our country, as well as authenticated and reliable statistical bureaus, have become convinced that there is a tendency towards an increase in both length and depth of business depressions, and more or less uncertainty as to assurances of so-called business prosperity. In any event, a study of business charts and employment conditions reveals that every so-called prosperity period has been followed by a depression period equal in intensity to the prosperity period, and usually resulting in wiping out any gains that may have been made during the previous period of business prosperity.

I do not personally pose as or claim to be a business diagnostician, but I am convinced by the facts presented by reliable students of business and employment conditions that something must be done to streamline our economic and social set-up in this country as the only out or hope of interrupting the ever-increasing trends towards business and governmental upset.

• In the early part of this year official reports indicated that we still had approximately 10,000,000 Americans out of work. Reports from Geneva by the International Labor Office's quarterly unemployment figures show that in November of 1937 Great Britain had only 1,500,000 unemployed which was 120,000 less than in November of the previous year. In Germany these figures reveal that during the month of November, 1937, only 570,000 people were unemployed as compared with 1,200,000 in November, 1936; while the number of unemployed in France dropped from 453,000 in November, 1936, to 362,000 in November, 1937. The figures quoted for the United States, namely, 10,000,000, are for a comparable period.

In the European countries mentioned above old-age pension laws and unemployment compensation laws have been in effect for many years, and while I would not undertake to say that these laws alone are responsible for the reduction of unemployed, I am convinced from information that comes to us from these countries that the existence of these laws has had a tremendous effect upon employment in those countries.

The 1930 census showed that we had 6,600,000 aged people 65 years of age or older in this country at that time. Many of these aged people were still compelled to seek employment as a means of livelihood. Competent authorities estimate that in 1940 we will have close to 9,000,000 individuals who will be 65 years of age or older, among whom will again be a very large number who still must seek employment in order to live. These same authorities estimate that in 1980 we will have approximately 17,000,000 individuals who are 65 years of age or older with approximately the same percentage of individuals who are compelled to look for work in order to live.

Unless some provisions are made for taking care of our aged we will soon be in a hopeless condition in this country. Recently Warden Louis E. Lawes, of Sing Sing Prison, revealed figures which indicate emphatically that idleness or unemployment now heads the list for causes of crimes. It is his opinion that most of the young offenders especially would not be in prison were it not for their inability to find jobs. In this connection it is interesting to note that the average age of the inmates of most of our modern prisons is around 25 years, indicating a very heavy percentage of young inmates just above and under twenty years of age. Some school authorities have quoted figures to show that since 1929 we have graduated in excess of 5,000,000 youngsters from high schools, colleges and universities, most of whom have been unable to find permanent employment, and many have not even had their first job.

The question that confronts us in this country is not "shall we adopt legislation of this kind," but rather "can we afford not to adopt this social legislation" with the evidence definitely tending to show that failure to adopt this type of legislation would mean eventually chaos and probably anarchy.

Authorities in England seem to agree that the adoption of legislation of this character in Great Britain has definitely had the result of preventing a revolution years ago.

• The progress made in medicine, surgery, and sanitation is responsible for the increase in the number of aged people, and also for the survival of youngsters. In years gone by before the age of research in medicine, surgery and sanitation, the span of human life was much shorter and infant mortality much greater. Not only has medicine and surgery made tremendous headway, but our modern industrial development with its mechanization of production which has been responsible for hand labor replacements has been phenomenal in recent years. Since the horse-and-buggy days of forty years ago, or longer, we have made tremendous strides in practically every direction excepting in our social organization. We have left behind us the candle and coal-oil lamps. No longer do Father, Mother and youngsters take their Saturday bath in the family wash-tub. Modern streamlined automobiles and other vehicles have taken the place of the ox and horse-drawn vehicles, and all these developments have brought about new problems in our social order. During the early part of our last half century we still had new frontiers to go to, and the advice of Horace Greeley who said "Go West, young man, go West" had much of value in it, but now that we have expanded to our farthest possible western shores these opportunities no longer exist, and it is now necessary for us to put on our thinking caps and do some long range planning heretofore unnecessary.

If study, research and organization have been able to accomplish so much in our business expansion, it would seem possible that study, research and organization can do the same thing for our social order. It would be a sad commentary on the intelligence of our people if we had to confess that, while we have the engineering skill and technique for boring through miles of mountains, for building huge bridges that span chasms and large bodies of water, for impounding waters behind huge dams that challenge the imagination of everybody, for translating forests into paper and rayon, we cannot put our social and economic house in order. Proper organization based upon facts can, I am sure, devise a system or organization of our social problems so that instead of representing a menace to us they will prove to be a blessing to mankind.

The late President Theodore Roosevelt once made the statement that "this country will never be any good for any of us until it is made for all of us," and only by applying our minds and facing the facts that confront us can we accomplish that which is necessary to solve the problems that confront us in our social and economic order.

These very sketchy ideas which I have just offered represent the background for the determination to adopt social security legislation in this country, which, though largely an experiment here, has proven to be a success in older countries abroad and elsewhere. Indeed, when a committee of one hundred appointed by the President of the United States began studying our social and economic problems in this country, they drew on Europe for its experience before drafting legislation in this country, which was later translated into law by the Congress of the U. S. A. This committee of one hundred which made the preliminary study was composed of men and women in business and other activities, each of whom had made an outstanding success of his or her own business or occupation.

After months of serious study and analysis by this committee the matter was turned over to the President for submission to Congress, and when introduced to the Congress of our U. S. A. two leading committees of this body conducted hearings for many months, checking every phase of the problems that confronted this country along these lines. When the matter was finally acted upon by the Congress of the United States there was a noticeable absence of party voting; in fact, if my memory serves me correctly there were more Democrats voting against the measure than Republicans, indicating that it was not at all a partisan measure but reflected the sound and considered views of men who felt that only by a long range plan such as the Social Security Act proposes can we ever hope to solve the problem that faces us in this country.

What the Several Titles in the Social Security Act Provide

● Title I grants to states certain moneys to be matched by state funds on a fifty-fifty basis, but the Federal Government will not match to exceed fifteen dollars per person entitled to Old-Age Assistance in the state on the basis of demonstrated need (previous earnings not being a requirement under this Title).

To illustrate: If the State of Oregon, or any state, either directly or indirectly, raises up to fifteen dollars per month per person entitled to Old-Age Assistance, the Federal Government will match such amount, and an appropriation of $49,750,000 was authorized for the first fiscal year ending June 30, 1936. There was also authorized to be appropriated for each fiscal year therefore a sum sufficient to carry out the purpose of this Title. The sums available under this section shall be used for making payments to states which have submitted and had approved by the Social Security Board, established by Title VII, a state plan for Old-Age Assistance. An additional five per cent of the amount to which a state is entitled is allowed to the state for administrative purposes.

● Title II creates an Old-Age reserve account within the Treasury of the United States for the purpose of paying Federal Old-Age Benefits or Annuities and appropriates to the account for each fiscal year, beginning with the fiscal year ending June 30, 1937, an amount sufficient as an annual premium to provide for the payments required under this Title. It also defines the benefits to which qualified persons reaching the age of 65 after January 1, 1937, shall be entitled. Benefits under this Title will be based upon wage earnings of workers in covered employments after January 1, 1937, and before they reach the age of 65. Need is not a requirement under this Title. Such amounts as the worker or his estate will get are his by right, exactly the same as if he collected the amount due on an insurance policy of any kind, if he had one and the conditions arose entitling him to benefits thereunder. However, if the amount of his benefit, based upon his earnings, is insufficient to take care of him and his dependents, he is entitled to further relief as provided in Title I of the Act. Title II is the companion provision to Title VIII.

● Title VIII actually creates the tax and provides for its collection to reimburse the Federal Treasury for moneys estimated necessary to carry out the provisions of Title II, Title VIII providing for an excise tax on payrolls of employers and an income tax on wages of employees of such employers, the tax on the employer and employee being alike, beginning with one per cent for the calendar years of 1937, 1938, 1939, and then increasing by one-half per cent raises until the maximum of three per cent for each is reached in the year 1949. With certain exceptions, all employers are subject, even though they have only one employee.

● Title III grants to states, who have adopted approved Unemployment Compensation Laws the funds for administrative purposes and makes the necessary appropriation for that purpose, beginning with $4,000,000 for the fiscal year ending June 30, 1936, and for each fiscal year thereafter the sum of $49,000,000 to be uesd as more specifically provided in Title III. This Title ties in with Title IX.

● Title IX of the Act creates and assesses an excise tax on employers of eight or more, with credit for amounts paid to states for Unemployment Compensation purposes, exempting certain employments just as does Title VIII. Title IX makes no provisions for a tax on employees; however, it does not prevent such a tax being imposed by states in the enactment of their Unemployment Compensation Laws, and a number of State Unemployment Compensation Laws have been approved by the Social Security Board containing employee contribution provisions. It does not set up a system of unemployment compensation payments, but the state laws, however, must provide adequate benefits before being approved by the Board.

● Title IV grants to states moneys to aid in caring for needy, dependent children. It appropriates the sum of $24,750,000 for the fiscal year ending June 30, 1936, and sufficient funds each year thereafter to carry out the purposes of the Title. State plans must be approved by the Social Security Board to be entitled to this Federal aid.

● Title V grants moneys to the states for maternal and child welfare, if a satisfactory state plan is proposed. Under this Title, $3,800,000 was appropriated for the fiscal year ending June 30, 1936, and each year thereafter, a similar sum is made available. Approval rests with the Chief of the Children's Bureau of the Federal Government.

● Title VI appropriates moneys for public health work. The sum of $8,000,000 is appropriated for the fiscal year ending June 30, 1936, and each fiscal year thereafter. To be entitled to its portion of these appropriations, a state must submit a plan prepared by its health authority, which must be approved by the Surgeon-General of the Federal Public Health Service.

● Title VII creates and makes provisions for the functioning of the Federal Social Security Board and defines its duties and obligates it to report to Congress at the beginning of each session.

Title VIII is the tax provision for Title II. (See explanation above in connection with Title II).

Title IX is the tax provision for Title III. (See explanation above in connection with Title III).

● Title X grants moneys to states who furnish a plan, approved by the Social Security Board, to aid the blind. $3,000,000 was appropriated for the fiscal year ending June 30, 1936, and authorization is given for a like amount for each fiscal year thereafter.

Title XI contains general provisions and definitions of terms, etc., in other titles.

Brief Outline of Unemployment Compensation in California, Oregon and Washington

● California was one of the first states to adopt an Unemployment Compensation Law which was quickly approved by the Social Security Board.

The California law, while broadly following the suggested Federal pattern, differed from other laws on the Coast in that it provides a tax on employees, as well as on employers. Its maximum benefits are somewhat greater, and its waiting period longer.

Also, earnings and benefits are definitely bracketed in the law along lines not found in the laws of Oregon and Washington. About 1,400,000 workers in California are covered by the Law, and by January 1, 1938, about $60,000,000 had been paid into the fund by covered employers and workers during 1936 and 1937.

California did not experience the excessive claim load which developed in Oregon.

● Oregon was also one of the early states to adopt an unemployment compensation law which was approved by the Social Security Board, and the law became effective as of Jan. 1, 1936, so far as its tax provisions were concerned.

The benefit provisions of the law became effective January 1, 1938, and by that time approximately six million dollars had been collected from the employers of the State of Oregon with which to pay benefits.

By this time the employers of Oregon have paid in almost ten million dollars in premium moneys, and since the first of the year approximately five million dollars have been paid out to qualified unemployed persons in this state.

Prior to the first of the year it was estimated that the initial claim load in Oregon would probably total some 30,000 claims, but instead, 75,000 individuals filed claims for unemployment compensation benefits during the first few months of the year. Despite the exceptionally heavy claim load which the fund was compelled to meet, it can be said with considerable pride, I am sure, that the fund is still solvent and will continue to be so unless unforeseen adverse industrial conditions develop, or amendments are made to the Act which would serve to unduly expand the benefit rights now provided in the Act. About 180,000 workers are subject to the law in Oregon.

● Unlike California, the Oregon and Washington Acts make no provision for the payment of taxes by employees for unemployment compensation purposes, relying entirely on the moneys paid in by employers for that purpose. The maximum benefits payable to unemployed persons during a benefit year is $240 which is receivable at the rate of $15 per week for a period of sixteen weeks, and these benefits as to weekly and maximum amount during benefit year are dependent upon the weekly earnings and the total earnings of individuals during what is referred to as "base year."

The State of Washington will start paying benefits January 1, 1939, one year after Oregon began. This is because the first Washington law was held inoperative by the Supreme Court of that state, and it was necessary to adopt a new one which was done in the early days of the session of 1937 and made retroactive to January 1, 1937.

During the years 1937 and 1938 Washington employers will have paid in approximately seventeen million dollars for unemployment compensation purposes, and this, along with $2,925,000 which the federal government granted the State of Washington representing 90 per cent of the federal tax paid by subject employers of that state for 1936, will equal approximately twenty million dollars in the fund with which to begin the payment of benefits on January 1 next year. About 300,000 workers are subject to the law in the State of Washington.

In many respects the laws of Oregon and Washington are alike. In some respects they differ somewhat, but due to lack of time I will skip a detailed discussion of these two laws both of which, along with the law of California and other states in which Crown Zellerbach Corporation and Rayonier Inc. operate, are fully described and defined in our Industrial Relations Advisory Service dealing with unemployment compensation, federal old- age insurance, and state old-age assistance. Throughout the United States and its possessions there are over 26,000,000 workers covered by unemployment compensation laws.

Old Age Insurance

● After January 1, 1942, the federal government will begin paying old age insurance benefits monthly to those who are entitled to same, based upon sufficient earnings and employment in covered employment in each of five calendar years prior to that time. In the meantime the federal government is already making lump sum settlements at the rate of 3½ per cent of taxable earnings since January 1, 1937, to individuals who have reached the age of 65, and to dependents or estates of those who have died since the law went into effect, namely January 1, 1937. About 39,000,000 Social Security cards have been issued to date for O.A.I. purposes.

In conclusion, I believe I am safe in saying that the pulp and paper industry should feel the effect of benefit moneys distributed by the federal government under Titles 2 and 8, and likewise as the result of payment of unemployment compensation benefits paid by the several state unemployment compensation funds in this country. I firmly believe that, next to the companies furnishing office equipment and accounting machines, etc., the paper industry probably is one of the greatest beneficiaries of these laws.

Obviously, the money received by aged individuals or workers out of jobs will find its way into the channels of trade in the purchase of foodstuffs, etc., all of which, as we well know, either come wrapped in paper or are put in paper sacks before delivery to the purchaser. Then, too, the grocer receives his supply largely in paper cartons, and correspondence in connection with the purchase and sale of these goods is carried on on paper, not

to mention the tremendous consumption of paper supplies used in carrying on the work of the various commissions and keeping of records, etc.

I wish to express my appreciation to you all for your kind attention and patience. Let us all hope that we may look back in years to come to the time when we made the start towards a better life for all of our citizens and for greater stability in business.

Mr. Hartwig has had long and active service in the ranks of organized labor. Born in Manistee, Michigan, he came to Portland in 1906 and has lived here ever since. In 1916 he was elected president of the Oregon State Federation of Labor, a position in which he continued through 1924. During the war he helped organize and set up the draft system in Oregon as a member of the Draft Board.

He also has served in numerous capacities in civic and labor work, on labor and conciliation boards, as a member of the State Board of Vocational Education in Oregon, as president of the Portland Cooperative Labor Temple Association, etc. More recently he was a member of the State Industrial Accident Commission representing labor, until in January, 1936, he became Public Relations Director for the State Unemployment Commission. He remained in this work until May 1, 1937, when he first became connected with the Crown Zellerbach Corporation.

Interpretation of the Fair Labor Standards Act

● The American Paper and Pulp Association has issued the following announcement concerning the application of the Fair Labor Standards Act of 1938:

"TO PAPER AND PULP MANUFACTURERS:

"Enclosed is opinion from Counsel for the Association regarding Fair Labor Standards Act of 1938. From this it appears that all paper and pulp manufacturers must comply with the Fair Labor Standards Act in respect to wages and hours on and after October 24, 1938.

"Minimum wages, 25 cents per hour.

"Maximum hours, 44 in a work week.

"All excess to be paid at 1½ times the regular rate.

UNLESS before that time the administrator issues regulations or grants exceptions stated within the enclosed letter.

"The industry has considered and adopted recommendations to the administrator. These, however, may not be put into effect until they are approved by the administrator. It may be that the administrator will be unable to act upon these recommendations for some time."

Very truly yours,

CHARLES W. BOYCE,
Executive Secretary.

WISE, WHITNEY & CANFIELD
Counselors at Law
122 East Forty-Second Street
New York, September 28, 1938

Mr. Charles W. Boyce,
American Paper and Pulp Association,
122 East 42nd Street,
New York City.

Dear Mr. Boyce:

"You have asked our opinion regarding the effect of the Fair Labor Standards Act on existing contracts of your member mills under collective bargaining agreements as to wages and hours.

"In our opinion the provisions of Sections 6 and 7 of the Fair Labor Standards Act of 1938 will, on October 24th, override and supersede any provisions of existing labor agreements which are in conflict with the provisions of the Act. In other words, all labor employed under whatever classification, except executive, administrative and outside salesmen, at less than twenty-five cents per hour, will constitute a violation of the law, any collective bargaining agreement to the contrary notwithstanding, and any agreement for employment during more than forty-four hours in any work week will be void as to all persons other than those employed in executive, administrative and outside salesmen classifications, unless for all overtime such employees are paid time and one-half and unless the employment is brought strictly within the exceptions provided by subsections (b) and (c) of Section 7.

"Sub-section (b) of Section 7 is intended to provide for tour workers, but this provision can only be made to avoid the hours limitation and overtime requirements if it is made with a collective bargaining agency, which expressly provides a limitation of a total of one thousand work hours in twenty-six consecutive weeks, that is, an average of less than thirty-eight and one-half hours per week or under annual employment to limit work to two thousand hours during fifty-two consecutive weeks.

"It is to be noted that there is no limitation on the number of hours that these collective bargaining agreements may permit employment during any week or weeks, but the benefit of this exception must be given by a collective bargaining agreement with an agency certified by the National Labor Relations Board. It has been ruled that this certificate must be applied for by the agency representing the employees.

"The other exception is for fourteen work weeks in the aggregate where the administrator finds the industry to be of a seasonal nature, but there is no provision for any excessive hours work without time and one-half pay for overtime in the case of break-downs, make up for time off, or otherwise.

"Under the above stated exceptions, all employment in excess of twelve hours in any work day or in excess of fifty-six hours in any work week must be paid for at the rate of time and one-half.

"The remaining exception under paragraph 7 (c) applies only to industries not related to the production of paper.

"We are informed that it is the purpose of the labor organizations to insist upon strict observance of the provisions of the Wages and Hours Act immediately on its becoming effective October 24th, and that the Administrator will have no alternative but to enforce the provisions and penalties provided, which include the difference between time and one-half and regular time rate for all overtime hours plus an equal amount and additional penalties.

"All employers having contracts with their employees whether or not through bargaining agencies allowing employment at less than twenty-five cents per hour or for hours in excess of forty-four in a work week without extra pay for overtime and whether or not in productive classifications should understand that these agreements cannot be relied on as exceptions to the law except as above stated.

"The definitions and language of the Act are sufficiently comprehensive to make its terms apply to all employers of persons engaged not only in commerce among the states, but those engaged in the production, manufacture, mining, handling, transporting or in any other manner working on such goods or in any process or occupation necessary to the production thereof in any state. The Administrator has indicated that the intent of the Act is to include office workers.

"In this letter we have not assumed to give any indication of opinion as to the constitutionality of the Act or as to the interpretation to be given to the provisions relating to Child Labor.

"In our opinion all collective bargaining agreements with employees which are in part substantially abrogated by the Wages and Hours Act may be terminated on October 24th at the option of the employer and that relying on this right the employer may properly enter into negotiations with the collective bargaining agencies for modification of the existing agreements to provide for the benefit of the exceptions under Section 7 (b) if that be deemed desirable.

"While the Act states that none of its provisions shall justify an employer in reducing or increasing hours, it does not expressly or impliedly prohibit employers from changing either their wages or hours or both to equalize with their present wage scale on the basis of the maximum hours of regular time under the Wage Hour Act. It is also to be noted that under Section 7 (a) within the limitation of forty-four hours per week, there is no qualification of the right of the employer to fix the number of hours in any day which his employees shall work at regular time rates."

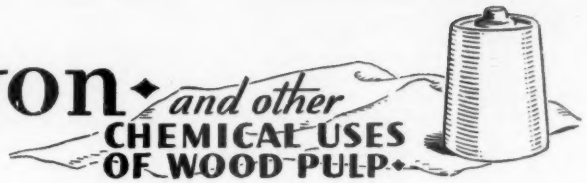
Very truly yours,

WISE, WHITNEY & CANFIELD.

Stevenson Studying At Institute

● Lloyd Stevenson of the laboratory of the Pulp Division, Weyerhaeuser Timber Company at Longview, left September 2 for Appleton, Wisconsin, where he will attend the Institute of Paper Chemistry for a year as a special student.

Rayon and other CHEMICAL USES OF WOOD PULP



American Viscose Expands Production

● The American Viscose Corporation began production last month in its new viscose staple fiber plant at Nitro, West Virginia. It is expected that the new unit will double the past production rasing the total to twenty million pounds annually from ten million pounds. The full capacity is scheduled to be reached by November of this year.

The Rayon Textile Monthly states that, "The plans of the corporation call for the enlargement of the Nitro plant to a complete duplication of the production units as they will exist on November 1st of this year, until two additional units will be in operation at Nitro, making the ultimate annual output forty million pounds of staple fiber.

"The steady demand for the use of staple fiber for the textile industry of the United States has led to the policy of enlarging the Nitro plant.

"Construction has been carried on steadily during the past seven months of the current year and there will be no let-up in the building activities until the other units to complete the production scope have been achieved.

"To those who have been close observers in the development of the use of rayon staple fiber in other parts of the world, it does not come as a surprise that the American market is showing such responsiveness to this very adaptable fiber."

Industrial Rayon Completing New Plant

● The Industrial Rayon Corporation of Cleveland, Ohio, recently offered a bond issue of $7,500,000 to provide money for completing the company's new continuous viscose process rayon yarn and staple fiber plant at Painesville, Ohio, a suburb of Cleveland.

Industrial Rayon now operates a plant at Cleveland with an annual productive capacity of approximately 7,750,000 pounds of rayon yarn, 1,425,000 pounds of rayon staple fiber and 10,000,000 pounds of tubular knitted rayon fabric; and another plant at Covington, Kentucky with a capacity of 10,600,000 pounds of rayon yarn. The new Painesville plant will have an estimated productive capacity of 12,000,000 pounds of rayon yarn.

In 1937 Industrial Rayon began the production of rayon staple fiber. For several years the company has been developing methods and machines to produce rayon yarn and rayon staple fiber from viscose by a mechanized continuous process, by means of which various steps in the spinning, washing, desulphurizing, bleaching, drying, twisting and other processing of the yarn are combined and performed mechanically by one machine.

A wholly owned subsidiary, Rayon Machinery Corporation, is engaged in the partial manufacture and assembly for the corporation of such machines for the production of rayon which are to be installed in the new Painesville plant. This machine is already in use in the Cleveland plant. Such machines may also at a later date be sold or licensed to others on a royalty basis or otherwise, or licenses may be granted with respect to the methods and process used in or the design of such machines.

DuPont Plans Fifth Expansion of Ampthill Plant

● The Rayon Division of E. I. du Pont de Nemours & Company, Inc., of Wilmington, Delaware, is reported to have approved plans for the early construction of the fifth unit of its plant at Ampthill, Virginia. The cost will approach a million dollars with equipment. The new unit is to be completed early in 1939.

Predicts Further Growth of Rayon and Staple Fiber Markets

● In the fourteenth annual Rayon Year Book Number of the Textile World appears an article prepared by Stanley B. Hunt, editor of the Rayon Organon published by the Textile Economics Bureau, Incorporated, entitled "World Rayon Trends."

Mr. Hunt closes his article as follows: ● "By way of summary, two points seem reasonably well indicated in rayon's future. First is a very substantial further growth of rayon staple production over the world. The filament rayon production is expected to increase at a somewhat slower rate, inasmuch as it is an older commercial product and its production is already sizeable.

"The second trend to be anticipated is a wider use of all types of rayon in industrial fabrics, in men's clothing, and in household textiles. Rayon consumption over the world to date especially in the "non-nationalistic" countries, has been highly concentrated in the women's apparel field, this outlet alone comprising probably 70 to 80 per cent of the total rayon volume in most countries. For the future, one can see an increasing use of rayon in men's clothing, such as summer and winter suitings and sports clothes, and in haberdashery such as underwear, shirtings, etc. Household textiles similarly are a large potential field for rayon, not only in domestics such as sheets and pillow cases, but also in upholsteries, draperies, rugs, towels, etc.

"Finally, the market for rayon industrial fabrics such as tire cords, automobile upholsteries, canvas and duck, bags, coated fabrics, etc., has barely been explored, although recent favorable developments in some of these fields hold forth great promise.

Fibre Producers Ask Price Increase

● The Staple Fiber Association of Japan filed a petition with the Ministry of Commerce requesting an increase in the official price of staple fiber, owing to the sharp advance in prices of chemicals, coal and wages, and the shortage of pulp supplies.

Estimates of 1938 Rayon and Staple Fiber Production

● Textile World, in its September issue estimates rayon yarn production in the United States during the present year will total about 275,000,000 pounds as compared with 312,000,000 in 1937, a decline of 12 per cent. This is considered to be remarkably little when the very poor condition of the textile industry in the first half of 1938 is taken into account.

The estimated staple fiber production in this country during the current year is 30,000,000 pounds against 20,000,000 pounds in 1937, a gain of about 50 per cent.

The Textile World states that if these estimates prove correct the total rayon yarn and staple production for 1938 will be in the neighborhood of 305,000,000 pounds as compared with a total of 332,000,000 pounds in 1937, a drop of but 8 per cent.

Industrial Rayon to Make Cord for Tires

● The Textile World reports that "The increasing importance of the tire industry as a market for rayon yarn was indicated recently when Hiram Rivitz, president, Industrial Rayon Corporation of Cleveland, Ohio, announced that a special rayon cord for use in tire construction would be made in the firm's new Painesville, Ohio, plant. He added that he had been asked by several tire firms to install the necessary equipment to make rayon for this purpose."

Japanese Rayon Exports Gain in July

● Rayon yarn and textile exports from Japan during July, for the first time in many months, registered a decided gain over shipments in the preceding month. Yarn exports during July increased 330 per cent in quantity and value over those for June. Most of the shipments went to Manchuria and China, largely on a speculative basis in anticipation of future restriction on exports to the yen-bloc countries, according to local comment says the U. S. Bureau of Foreign and Domestic Commerce.

Reports on foreign trade for the first 10 days of August indicated gains in rayon yarn exports over those for the corresponding period of 1937. Rayon textile shipments abroad during July advanced about 5 per cent over June exports.

Japanese Rayon Yarn Production Down 24% First Six Months

● Production of rayon yarn by mills belonging to the Japan Rayon Producers' Association declined to 120,637,000 pounds in the first 6 months of 1938, from 160,095,000 in the corresponding period of 1937. (It is understood that these figures cover only production by the viscose process; in the 12 months of last year, production of cuprammonium rayon was slightly under 10,000,000 pounds.) June production of rayon yarn fell to 14,703,000 pounds, or 32 per cent less than the May output (21,635,000 pounds) as a result of the increase in the production-curtailment rate to 70 per cent on June 1, from 59 per cent which had been in effect for the first 5 months of 1938. The sharp reduction in production during June enabled the member mills of the Association to reduce mill stocks of rayon yarn from the high figure of 56,589,000 pounds on May 31 to 48,206,000 on June 30. In addition, the Association had so-called "sealed stocks" which were recently estimated at about 7,000,000 pounds, and considerable stocks were held throughout the country; Japanese press comment indicated that rayon yarn stocks in Japan may have exceeded 60,000,000 pounds at the end of June, 1938.

Spinnerets, as of June 30, numbered 502,074, a decrease of 350 compared with the previous month. While this decrease is very small it is not without its significance, inasmuch as it is believed to be the first decrease in the history of the industry. Last year (1937) an average of 5,707 spindles were added each month.

Japan Adopts Import Export Link System

● The Japanese rayon industry until recently has produced mainly for the export trade, more than half of its production having been sold abroad, either in the form of yarn or cloth. The Government's foreign exchange and import control measures have led to regulations restricting the sale of pure cotton goods in the domestic market and providing for the mixing of a high percentage of staple fiber or other synthetic textile in wool goods for domestic consumption. These restrictions have increased the use of rayon in the home market and compensated to some extent for the loss of export trade. In the latter part of July, however, the Japanese Department of Commerce and Industry decided to apply the export/import link system to rayon, effective August 1 in the case of yarn and October 1 in the case of cloth. Import quotas under the link system have been fixed on a basis which permits the importation of 140 pounds of rayon pulp against the export of 100 pounds of rayon yarn and the import of 155 pounds of pulp for every 100 pounds of rayon-yarn content in the textiles exported. Monthly average consumption in the yen-bloc areas has been set at 150,000 cases (of 100 pounds each) of rayon yarn.

Imports of pulp for rayon and staple fiber into Japan during 1937 approximated 295,000 metric tons, compared with 173,000 in 1936. (Metric ton equals 2,204.6 pounds each.) Of the pulp produced in Japan and Manchuria last year, only about 57,000 metric tons were for rayon and staple fiber. Although many of the rayon mills carried over stocks of pulp into 1938, these supplies have been gradually consumed and in recent months, there has been a shortage of pulp because of the strict foreign exchange and import control measures adopted by the government.

During the first 5 months of 1938, imports of pulp for rayon and staple fiber amounted to 91,539 tons; official figures for later months were not available at date of writing (July 31). Press reports stated that the Ministry of Commerce early in July decided to permit the importation of 58,000 tons of rayon pulp, but it decreed at the same time that all other outstanding contracts (understood to exceed 200,000 tons) must be canceled and any further pulp imports must come in under the new export-import link system.

The Kobe Chronicle, issue of July 24, discusses the salient features of the rayon link system as follows:

● "The Department of Commerce and Industry has at last decided to adopt an export-import linking system for rayon. Theoretically the system will be enforced on August 1 in the case of yarn and on October 1 in the case of cloth. But as the system will be applied to goods held in stock, it will actually start on August 1st.

"One of the most remarkable features of the system is that whereas yarn exports are linked to pulp imports individually, cloth exports are linked to them on a group or collective basis. Another interesting fact is that the Rayon Industrial Association undertakes the monthly export of at least 50,000 boxes, of which 40,000 boxes will be shipped after weaving. Should any portion of the quotas remain unshipped, the Exporters' Association, the Traders' Association and the Industrial Association will buy and ship them out later. For this purpose, they are to raise a ¥1,500,000 fund.

"Still another feature is that the Government is causing the Exporters' Association to restrict stock holdings to about two months' needs with a view to facilitating the export trade. Measures will also be taken to digest the 400,000 boxes in stock in such a manner as to prevent any abrupt fall in prices."

Simultaneously with the adoption of the export-import linking system, the Ministry of Commerce and Finance published regulations governing the maximum sales prices of rayon yarn, effective July 25. The prices decided upon by the Government represent a compromise. Originally the Rayon Producers' Association is said to have proposed a maximum of 112 yen for multi-filament yarn, but the Rayon Textile Traders' Guild Federation hoped for a price of 82 yen. The Government price is halfway between these two figures, namely 93 yen for multi-filament yarn and 88 yen for 120-denier viscose yarn. Prices are for a unit of 100 pounds.

Although the official prices are materially lower than some of the rayon yarn interests would like to have them, they are nevertheless liberal and should allow manufacturers a reasonable profit, according to local trade comment. Production costs are said to be running between 70 and 75 yen per 100 pounds.

China, Manchukuo Not Included In Link System

● What will hurt the industry are the anticipated severe restrictions on exports of both yarn and textiles to Manchuria and those parts of China under Japanese control, according to the local trade. These very areas have always figured among the most promising sales territory of the Japanese rayon territory. It was only a few months ago that customs duties were materially lowered there. However, now that sales to those markets will no longer count as exports in connection with the link system, it is probable no more imported pulp will be made up into yarn or textiles for sale in that market; the demand there will probably have to be satisfied with the limited supplies of yarn and textiles which can be made from Japanese and "Manchukuo" pulp. This means frustrations of the plans of those who had expected not only to hold, but to materially expand their China and Manchurian markets.

Rayon Yarn Exports Down 61% In First Half Year

● June exports of rayon yarn from Japan amounted to 971,200 pounds valued at 818,586 yen, compared with 1,035,300 pounds valued at 815,209 yen in the preceding month. For the 6 months ended June 30, 1938, exports aggregated 10,023,000 pounds valued at 7,465,000 yen, against 25,700,000 pounds (20,734,000 yen) in the first half of 1937 and 24,908,000 pounds (16,488,000 yen) in January-June, 1936. The June, 1938, exportation represented the smallest quantity exported in any month since September, 1934. For the half year, the volume of exports of rayon yarn was approximately 60 per cent less than in the corresponding periods of 1937 and 1936.

Asiatic countries (especially British India and China) have been the major export outlets for Japanese rayon yarn; in the first half of 1938, these markets took only 7,424,500 pounds of Japanese rayon yarn, against 21,603,300 in January-June, 1937. The slump in exports to these markets is said to be attributable to some extent to low prices for agricultural products of these countries. Outside of Asia, the most important export outlet for rayon yarn has been Mexico, but shipments to that market in the 1938 half year (1,339,800 pounds) were less than half those of the like period of 1937. Increased sales were made this year to the Union of South Africa and Australia, but practically all other markets took less than in the 1937 half year.

Rayon Cloth Exports Down 28%

● Exports of rayon cloth during the first half of 1938 fell to 171,985,000 square yards (valued at 54,290,000 yen), from 239,631,000 square yards (75,106,000 yen) in the corresponding period of 1937; exports to Asia dropped to 108,266,000 square yards (31,925,000 yen), from 165,883,000 square yards (51,070,000 yen), thus accounting for about 57,600,000 square yards of the decline of about 67,600,000 in the total to all countries. Australia was one of the few markets to increase its purchases of Japanese rayon cloth, shipments rising from 13,394,000 square yards in the 1937 half year to 21,728,000 in January-June, 1938.

Chilean Rayon Yarn Imports

● Imports of silk and rayon yarns into Chile during the calendar year 1937 totaled 1,148 metric tons (of 2,204.6 pounds each), compared with 1,189 in 1936. During the first half of 1938, imports of such yarns amounted to 622 metric tons. See the August 15 issue of Textile Raw Materials, No. 258, for additional details, including countries of origin. It is understood that most of the yarn imports are rayon singles.

Italy's Export Markets for Synthetic Fibers

● The chief export markets for Italian synthetic textile fibers in the first 6 months of 1938 were Germany, British India, Mexico, and Australia. Exports to the United States, valued at 2,083,000 lire, amounted to only 40 per cent of the value of such shipments in the corresponding period of 1937. Germany and the United States were the destinations of 80 per cent of the total shipments of waste of synthetic textile fibers from Italy in the 1938 period, exports to Germany having declined by 20 per cent, as compared with those in the 1937 half year, while shipments to the United States increased by more than 50 per cent to 2,167 tons valued at 16,045,000 lire. In addition to fibers and waste, the United States took the following manufactured products from Italy in the first 6 months of 1938: 50 tons valued at 2,344,000 lire of textiles of synthetic fibers (12 per cent larger and 60 per cent more costly than in the 1937 half year); 996 tons valued at 14,112,000 lire of mixed textiles containing synthetic fibers (about 12 per cent smaller in volume than in the 1937 period); and 306 tons valued at 4,327,000 lire of other products made of synthetic textile fibers (practically the same as figures for similar shipments in the 1937 half year).

Italian imports of cellulose during the first 6 months of 1938 amounted to 143,940 metric tons, of which 91,381 were for the manufacture of synthetic textile fibers. The total importation was nearly 25 per cent greater in volume than that of the corresponding period of 1937.

Production figures for synthetic textile fibers were available at date of writing this report (August 8) for the first 5 months of 1938 during which the total output was 58,763 metric tons, against 48,530 in the corresponding period of 1937. Additional details follow:

The foregoing figures are from official returns which showed a reduction in the number of active spinnerets producing rayon, from 114,033 in April to 113,375 in May, but little change in the number engaged on staple fiber and lanital. (American Consulate, Milan)

To Build Rayon Yarn Plant in Chile

● A plant for the production of rayon is to be erected in Quillota, a town on the railway line between Valparaiso and Santiago, according to fragmentary but seemingly reliable information obtained locally. It is reported that a company is in process of organization and that approximately 40,000,000 pesos ($1,600,000) will be invested in the plant and housing for employees. It is further reoprted that machinery to the value of 30,000,000 pesos ($1,200,000) already has been acquired in Germany and that the machinery will be ready for shipment and installation as soon as the factory building has been completed. No information was available as to whether the raw materials for the production of rayon were to be imported or obtained locally. (American Consulate, Valparaiso)

Department of Commerce Issues Pulp and Paper Booklet

● The new publication, the "United States Pulp and Paper Industry," prepared by the Pulp and Paper Section, Forest Products Division, Bureau of Foreign and Domestic Commerce, Washington, D. C., is now off the press. Copies may be procured from the Superintendent of Documents, Washington, D. C., at 15 cents each, or from Philip M. Crawford, acting manager, Seattle District Office, Federal Office Building, Seattle.

Written in understandable, nontechnical language, the booklet is designed to give to student, teacher, economist, and lay reader a general perspective and understanding of the industry as it has grown and as it exists today. Certainly it will leave the reader very much "pulp and paper conscious" and most appreciative of the importance of the paper product. United States Pulp and Paper Industry is likewise designed, through its tables of reference data, to provide the pulp and paper manufacturer, the importer and the exporter, with production, import and export facts. Much of the data is carried back on a comparative basis to 1899.

The new publication carries chapters on the history of the industry, its economic status, its location, manufacturing methods, distribution methods, foreign trade, etc. Its 41 tables show pulpwood consumption, wood pulp and paper production, wood pulp imports by type and country of origin, and imports of newsprint and other types of paper. They also show exports of many of the same items. Twenty-four cuts supplement the subject matter.

An advisory committee from industry comprised of Mr. Boyce, executive secretary of the American Paper and Pulp Association; Mr. Kellogg, secretary of the News Print Service Bureau; Mr. Porter, secretary-treasurer, United States Pulp Producers Association; Mr. Grafton Whiting of the National Paperboard Association; Mr. Bullock, manager, Import Committee of the American Paper Industry; Mr. Chamberlain, executive secretary of the National Paper Trade Association; Mr. Londergan, assistant secretary of the National Paper Trade Association, and Mr. Macdonald, secretary of the Technical Association of the Pulp and Paper Industry, cooperated in the preparation of "United States Pulp and Paper Industry."

Forest Products Lab Announces Process Improvement

● Improved technique developed at the Forest Products Laboratory, U. S. Forest Service, Madison, Wisconsin, makes less imperative careful selection of heartfree wood, heretofore a requisite for light-colored, bleachable sulphite pulp from such woods as Douglas fir, jack pine, and the southern pines, according to the Laboratory's announcement. Wood containing considerable amounts of heartwood of the above species have produced satisfactory pulps by using the standard sulphite process under special conditions involving the use of high liquor concentration, extended penetration periods, and low temperatures in cooking the wood. These measures have tended to minimize the adverse influence of the heartwood, and in repeated instances gave satisfactory pulps from the standpoint of both yield and quality.

Although the results thus far obtained require further study to determine their full value both from a technological and economic point of view, they are considered particularly encouraging in view of the eventual possibility of making sulphite pulps suitable for high-grade papers, rayon, and other derivatives from heart-containing Douglas fir and pines.

Camas Golf Winners

● The Crown Willamette Golf Association of Camas wound up another successful season September 9th with a dinner and the presentation of trophies by J. E. Hanny, manager of the Camas mill of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation.

Clifford Odoms won the first flight with Lawrence Blair as runner-up.

The second flight was won by E. A. Price who defeated Clifford Arnold. The third flight winner was John Roberts who defeated Herman Junge. Walter Rains won the fourth flight by defeating Ed Bartkowski.

The trophies presented by Mr. Hanny were all golfing figures, the largest going to the winner of the first flight. The J. E. Hanny Progress Trophy (a much sought after award) was won by Frank Sullivan, the new president of the Crown Willamette Golf Association.

Besides Mr. Sullivan other officers elected were: Bruce Dobbs, vice-president; Andrew Catto, secretary-treasurer, and Lawrence Blair, director.

Italian Production of Synthetic Textile Fibers

Item	April 1938	May 1937	May 1938	January-May 1937	January-May 1938
	(Quantity in Metric Tons)				
Rayon	4,045	4,089	4,418	18,631	21,655
Staple Fiber	6,907	5,837	7,427	28,041	34,525
Lanital	221	125	230	494	1,110
Waste	302	290	297	1,364	1,473
Total	11,475	10,341	12,372	48,530	58,763

Advanced Design Increases Efficiency of Propeller Pump

Bingham Pump Company Develops Unit to Handle 35,000 Gallons Per Minute Against Heads Up to 75 Feet – Weighs Nine and One-Half Tons

● Pulp and paper producers will be interested in the announcement made this week by the Bingham Pump Company of Portland, Oregon, of their new large capacity, high head, propellor type pump. With this new pump the Bingham concern is now able to offer the pulp and paper industry pumping equipment for mill supply, condensers and for various mill processes. Widespread comment is expected in the paper industry as a result of the development of this new equipment which is said to embody a number of advances in hydraulic design.

In releasing the announcement, Randolph Bingham, president, commented, "It is entirely possible that this new equipment will revolutionize the propellor pump field. For the first time in the history of the pump industry we are able to offer propellor type pumps to deliver large quantities of water to comparatively high heads. In addition, this new design requires considerably less horsepower and is more economical to operate than any similar type of pumping equipment yet developed."

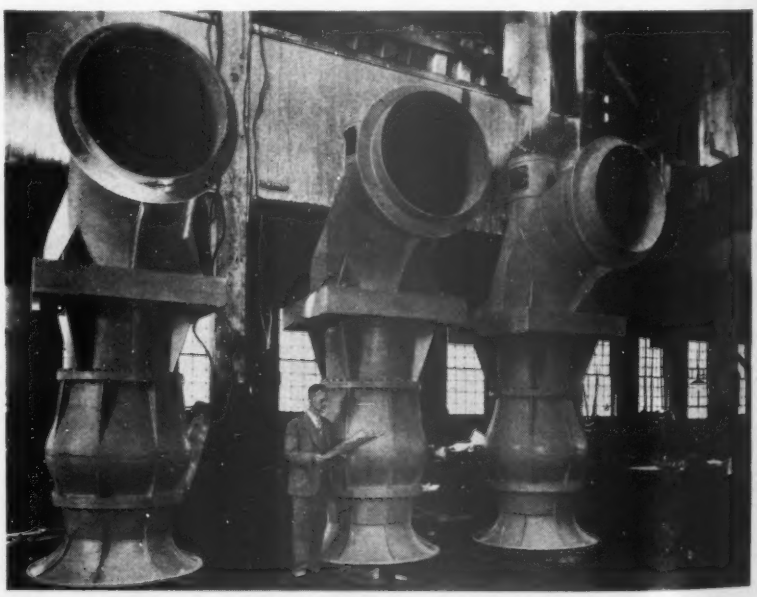
With the new pump, Bingham engineers are able to offer single stage units capable of delivering their full capacity against heads up to and including 75 feet. In reaching this head, which is approximately three times that previously obtained from propellor equipment, the efficiency of the pump itself has been increased approximately 25 per cent over that of any similar equipment.

Of great importance in the development of this pump is the horsepower characteristic, which is unusually flat throughout the entire operating range as compared with the horsepower characteristic of standard propellor pumps. This feature broadens the application of low head high capacity pumps into practically all industries using large quantities of water.

As a result of the satisfactory performance of this new pump, the Bingham Pump Company received an order for three single stage units on which work has just been completed. Each of these monster pumps is designed to deliver 35,000 gallons per minute. These pumps will be used for irrigating purposes in a project for reclaiming arid lands. Each pump will be powered by a 500-horsepower electric motor. Without the motor each unit weighs approximately nine and one-half tons.

● Due to the unique engineering problems involved in this particular pumping installation, major pump manufacturers all over the United States were asked to submit their recommendations and bids. According to Randolph Bingham, "We were able to obtain this business because we have an engineering staff capable of doing the extensive research and engineering necessary to meet this very difficult pumping problem."

The development program carried on by the company took several months of exhaustive testing and measuring. A model pump capable of delivering 4,000 gallons per minute was first developed and tested in the Bingham laboratories. Calibrated Venturimeters were used for measurement of capacity. Horsepower ratings were accurately established by a dynometer. Because of the careful design of the model pump and the accurate testing facilities of the Bingham hydraulic laboratories the large pumps will deliver full capacities of water with the high efficiency guaranteed without penalty.



THREE of the newly developed pumps each having a capacity of 35,000 gallons per minute, being checked on by Carl Blom, chief engineer of the Bingham Pump Company of Portland, Oregon.

Robertson and Paul Vacation in Fall

● Fall vacation news from Camas is that J. F. Robertson, Crown Willamette safety supervisor, and E. A. Paul, paymaster, are just recently back from their trip to San Francisco.

Ed Webberly, beater room foreman, is going deer hunting, co-workers insist it is safe to report that he got his venison.

Basic Statistics Covering the Japanese Wood Pulp Industry

by CARL H. BOEHRINGER, Assistant
United States Trade Commissioner, Tokyo

Statistics on Production

● According to the "Mokuzai Nenkan" (Lumber Yearbook), 1938 edition, issued on July 30, 1938, by the Nihon Mokuzai Kenkyusho (Japan Lumber Research Institute), quoting data attributed directly to the Department of Agriculture and Forestry, Tokyo, output of wood pulp in the Japanese Empire, including Japan proper, Karafuto, Hokkaido and Chosen, was as follows during the years 1935 and 1936. An estimate for 1938 is also given,

● In addition to the foregoing, a total of 14 small-scale pulp mills operated by the Imperial Household Department, the state Forestry Bureau and local authorities turned out 180 long tons of soda pulp during 1937. This venture is being expanded during 1938 and it is estimated that 21 such plants will turn out 2,464 long tons of soda pulp during 1938.

Output of wood pulp in Manchuria is reported by the same source as follows during the years 1933 to 1937 inclusive. An estimate for 1938 is also given.

Production of wood pulp in the Japanese Empire is reported by the same source as follows, the data showing output by kind and by locality.

● During 1936 the Oji Paper Manufacturing Company's plants turned out 715,247 long tons of wood pulp, representing 89.1 per cent of the empire's total produc-

Output of Wood Pulp in Japanese Empire, 1936-38

(In tons of 2,240 pounds each)

	1936 Final	1937 Final	1938 Estimate
Ground	334,052	368,724	406,628
Sulphite	357,412	393,072	411,250
Kraft	51,818	63,481	67,350
Magnesia	4,074	4,407	4,100
Rayon	55,209	57,294	114,500
Sulphate	.....	.....	1,400
Total	802,565	886,978	1,001,228

Output of Wood Pulp in Manchuria, 1933-38

(In tons of 2,240 pounds each)

	Sulphite	Ground	Total
1933 (Final)	15,252	2,109	17,361
1934 "	11,508	2,157	13,665
1935 "	11,509	2,209	13,718
1936 "	10,793	2,378	13,171
1937 "	12,618	2,393	15,011
1938 (Estimate)	41,600	2,400	44,000

Output of Wood Pulp in Japanese Empire, 1933-38

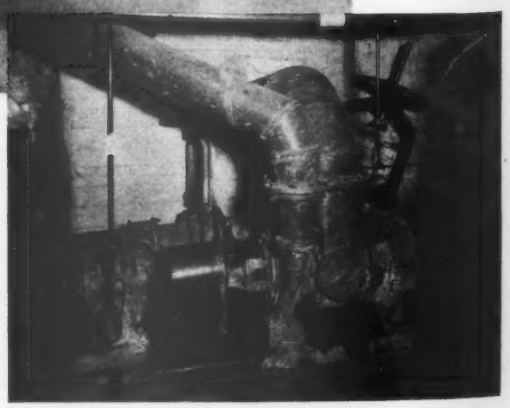
(In tons of 2,240 pounds each)

Sulphite*	1933	1934	1935	1936	1937	1938†
Karafuto	213,173	248,046	272,883	295,619	306,107	323,100
Hokkaido	47,786	51,967	54,064	54,275	56,098	57,200
Japan Proper	33,581	46,274	48,351	44,888	50,357	106,350
Chosen	16,081	18,018	16,866	17,839	37,804	39,100
Total	310,621	364,305	392,164	412,621	450,366	525,750
Ground						
Karafuto	36,530	43,598	46,586	41,817	45,992	46,000
Hokkaido	133,342	149,095	159,426	165,338	181,360	191,800
Japan Proper	98,121	108,839	115,019	126,897	141,372	164,828
Total	267,993	301,532	321,031	334,052	368,724	402,628
Kraft						
Karafuto	40,144	39,912	40,505	51,818	63,481	63,600
Japan Proper	.....	.....	.....	.....	.....	3,750
Total	40,144	39,912	40,505	51,818	63,481	67,350
Magnesia						
Japan Proper	1,281	3,247	3,777	4,074	4,407	4,100
Sulphate						
Japan Proper	.....	.....	.....	.....	.....	1,400
Grand Total	620,039	708,996	757,477	802,565	896,978	1,001,228

* Includes rayon pulp. † Estimate.

BLACK CLAWSON
and
SHARTLE BROS.

LIKE A SNOWBALL ROLLING DOWN HILL . . . your first purchase of Black-Clawson-Shartle paper mill machinery is never your last. So impressed will you be with your new B-C-S equipment that you will immediately want future purchases to bear the same nameplate. • This has been the experience of many mills . . . it will be yours.



MIAMI AGI-FLO PUMPS
Thorough chest agitation. No stratifying. Delivery to machine head box in absolutely uniform volume . . . all with one motor and on far less power.

The Black-Clawson Co. and Shartle Brothers Machine Co.

tion. In 1937, that company produced 753,060 long tons or 84.9 per cent of the total. It is predicted that the Oji Company will turn out 790,400 long tons in 1938, representing 78.9 per cent of the total amount estimated. The following table summarizes output in the Japanese Empire by companies during 1936 and 1937, the estimates for 1938 being included.

No complete statistics are available covering the productive capacities of the foregoing companies. Since all companies are producing up to the limit, however, it may be assumed that the foregoing data afford a good indication as to productive capacities during 1936, 1937 and during 1938.

Data covering the productive capacities of the plants operated by the Oji Paper Manufacturing Company were contained in our report entitled "A Critical Survey of the Japanese Pulp Industry."

Foreign Trade

• Imports of wood pulp during 1936 and 1937 were as follows, as reported in the official "Monthly Return of the Foreign Trade of Japan, December, 1937," issued by the Department of Finance, Tokyo.

Details covering countries of origin for 1937 imports are available in the December, 1937, monthly trade return, on file in the Bureau Library. In connection with the foregoing data, it will be noted that 100 kin are equal to 132.2772 pounds or 60 kilograms.

Exports of wood pulp are invariably negligible; during 1937 these shipments amounted to 4,393,100 kin at a value of Yen 511,438 against 1936 exports of 899,300 kin at Yen 78,352. No data are available covering destination of the 1937 exports. The figures do not show exports by type separately.

Stock of Wood Pulp

• No official figures are available covering stocks of paper and rayon pulp on hand at the end of 1937. The Japan Warehousemen's Association reported stocks of rayon pulp at 88,667 long tons at the end of 1937; the corresponding total for paper pulp was 24,625 long tons. This wood pulp was stored by member companies affiliated with the association and obviously do not include appreciable stocks held by manufacturers.

As regards rayon pulp, officials of the Department of Commerce and Industry and trade contacts re-

Output of Wood Pulp in Japanese Empire by Companies

(In tons of 2,240 pounds each)

Name of Company.	1936	1937	1938 (Est.)
Oji Paper Manufacturing Co.	715,247	753,060	790,400
Japan Rayon Pulp Co.	44,589	59,031	60,700
Karafuto Mokuzai Shiryo Co.	7,000	8,500	8,000
Tokai Shiryo Co.	3,170	8,495	8,000
Naniwa Paper Co., Ltd.	5,902	6,527	6,500
Hokuetsu Paper Co.	25,777	29,675	37,678
Hokuetsu Pulp Co.	.....	.....	16,800
Hokuetsu Paper Industry Co.	880	20,860	22,000
Taiyo Pulp Co.	.....	830	18,750
Nisso Rayon Pulp Co.	.....	.....	11,600
Japan Pulp Industry Co.	.....	.....	7,800
Showa Paper Co.	.....	.....	3,700
Japan Paper Co.	.....	.....	1,800
Takachiho Paper Co.	.....	.....	6,500
Total	802,565	886,973	1,001,228

Imports of Wood Pulp Into Japan Proper, 1936-37

(Volume in 100 kin — value in yen)

	1936		1937	
	Volume	Value	Volume	Value
Paper Pulp	2,644,769	23,050,228	2,981,893	36,349,084
Rayon Pulp	2,863,763	44,056,829	4,919,834	80,370,788
Total	5,528,532	67,107,057	7,901,727	116,719,852

Output of Rayon and Consumption of Rayon Pulp, 1936-37

Year.	Output of Rayon Pounds	Pulp Consumed Long Tons	Number of Companies	Number of Mills
1926	5,496,702	3,641	3	5
1927	11,039,069	7,315	6	8
1928	18,441,896	10,769	7	9
1929	26,270,735	14,407	7	9
1930	37,205,990	20,072	9	11
1931	48,363,890	29,203	10	12
1932	70,038,101	38,794	10	11
1933	97,652,463	53,420	11	12
1934	146,138,892	82,276	12	14
1935	217,858,179	118,372	15	18
1936	267,074,514	152,263	21	27
1937	324,749,600	181,222	20	31

Note: Number of companies and number of mills refers to rayon manufacturers.

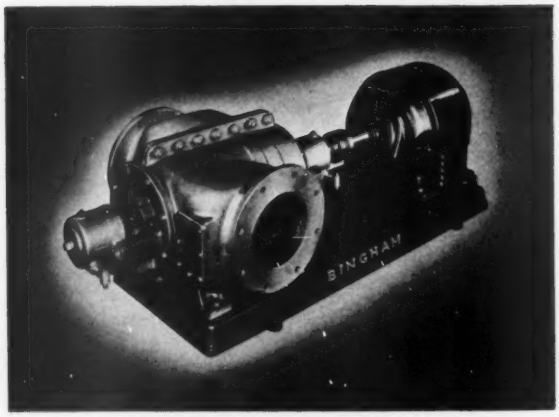
Output of Staple Fiber and Consumption of Rayon Pulp, 1932-37

	Output of Staple Fiber Pounds	Pulp Consumed Long Tons	Index of Production (1932-100)
1932	550,000	315	100
1933	963,000	558	174
1934	4,720,000	2,739	858
1935	9,031,045	5,575	1,747
1936	55,498,269	29,410	8,449
1937	175,494,119	97,933	30,700

Here's an EASY LOW-COST WAY to get MORE QUALITY and MORE SALES!

The Bingham COMBER

"IT COMBS AND MIXES"



A 12-inch Bingham Comber made of stainless steel for bleach plant service

Look at these features . . .

- 1. Combs out "bunched fibres"
- 2. Thoroughly mixes
- 3. Does not bruise, cut or hydrate pulp fibres
- 4. Insures individual fibre treatment by added chemical

A FOUR-WAY INSURANCE FOR IMPROVING THE UNIFORM QUALITY OF YOUR PRODUCT

• Pulp and Paper producers will welcome the Bingham Comber because it actually combs out "bunched-fibres" and uniformly mixes added chemicals — each fibre receiving individual treatment.

The installing of a Bingham Comber before the machine head box eliminates "bunched-fibres" by the combing action, which insures a smooth, uniform sheet forming on the machine wire.

The installation of a Comber in a stock line does not increase head loss in the system, because this special equipment creates sufficient head to compensate for all losses taking place as the pulp is being combed and mixed.

Due to the high operating efficiency of the Bingham Comber only a small amount of power is required to produce its dual service. The Comber may be easily and quickly installed in any system and can be arranged for either direct connection or V-belt drive.

Whether your plant has a capacity of 50 or 500 tons per day, it will pay you to investigate the Bingham Comber because it improves quality at low-cost.

WRITE FOR DESCRIPTIVE BULLETIN!

Bingham PUMP COMPANY

705 S. E. MAIN STREET
PORTLAND, OREGON

ported that stocks at the end of 1938 approximated 138,000 metric tons. This total was involved in all calculations concerning the supply and demand position for 1938 and may therefore be accepted as being reasonably correct and the best estimate available.

The matter of paper pulp stocks at the end of 1937 was referred to the Japan Paper Manufacturers' Association but without result. The secretary of the association stated that since July, 1937, all details covering stocks are kept confidential among member companies and are given only to the Government upon request. A fairly close estimate may be made, however, on the basis of data for the preceding three years. It is estimated that stocks at the end of 1934 approximated 116,276 long tons, with the corresponding figures for 1935 and 1936 being 122,940 and 113,840 long tons respectively. Accordingly it seems that paper pulp stocks in Japan are more than 100,000 tons at the year end and may average 115,000 long tons. It seems safe to say that paper pulp stocks at the end of 1937 were between 100,000 and 115,000 long tons.

Consumption of Rayon Pulp

● The "Mokuzai" (Lumber Yearbook) contains the following tables covering consumption of rayon pulp in Japan Proper in recent years, the data including output of rayon staple fiber and cellophane. The Department of Agriculture and Forestry is given as the source for all data.

The following table presents data covering output of staple fiber, pulp consumed and the indexes of production.

The following table presents corresponding data for production of cellophane.

According to information obtained from the Oji Paper Manufacturing Company, no pulp is used in Japan for the manufacture of plastics or for explosives.

Output of Cellophane and Consumption of Rayon Pulp 1929-37

	Output of Cellophane Pounds	Pulp Consumed Long Tons	Index of Production 1929 equals 100
1929	18,833	8	100
1930	72,631	32	400
1931	199,763	112	1,400
1932	901,579	527	6,587
1933	3,134,011	1,704	21,300
1934	4,027,080	2,184	27,300
1935	5,630,327	3,011	37,475
1936	8,716,191	4,665	58,312
1937	14,004,083	7,970	99,625

Japanese Paper Situation In Second Quarter

● Late in July it was announced that the Department of Commerce and Industry has requested publishers of newspapers, magazines and the like to effect definite curtailments in their use of paper. Beginning September 1 newspaper publishers will reduce the amount of paper used by 12 per cent from the average amount consumed during the year which ended June 30, 1937. Magazine publishers will be asked to use 20 per cent less paper, while all other publishers will be forced to get along with 30 per cent less paper. The "request" is so worded, apparently, that no choice is left to the publisher. No dates have yet been announced as to when restricted consumption goes into force for magazine and other publications.

Production and sales of paper by the Japan Paper Manufacturers' Association during the second quarter of 1938 showed gains over the preceding quarter. As regards foreign trade, imports dropped to excessively low levels, owing to current trade and exchange restrictions. Exports, on the other hand, gained sharply over the preceding quarter, and were less than 1 per cent short of exceeding the all-time high quarterly total of the second quarter of 1937.

Production of machine-made paper by the 12 member companies of the Japan Paper Manufacturers' Association during the 1938 second quarter, reached a total of 487,389,000 pounds, an increase of 6 per cent over the preceding quarter, but 14 per cent less than the amount turned out during the second quarter of 1937. Output during the first half of 1938 amounted to 945,884,000 pounds, a decline of 11 per cent from the corresponding total in 1937.

Sales of paper by the associated companies during the 1938 second quarter amounted to 542,389,000 pounds, a gain of 8 per cent over first quarter, and only 1 per cent less than the amount sold during the second quarter of 1937. Sales during the first half of 1938 aggregated 1,043,993,000 pounds, against 1,106,922,000 during the same period of 1937, a decline of more than 5 per cent.

● Imports of paper during the 1938 second quarter were again at sharply restricted levels, owing to trade and exchange restrictions, the total of only 4,344,000 pounds compared with 8,369,000 imported during the preceding quarter, and 29,443,000 during the 1937 second quarter. Imports during the first half of 1938 were 12,713,000 pounds, a decline of 78 per cent from the corresponding total for 1937. Of the second quarter paper imports, packing and match paper lead with a volume of 2,622,792 pounds. Newsprint came second with a volume of 1,030,043 pounds, and imitation parchment was third with a volume of 539,294. These import figures are directly comparable with the imports during the second quarter of 1937 which were 5,472,705 pounds for packing and match paper, 17,776,336 for newsprint, and 3,767,122 for imitation parchment. Within the import group 726,599 pounds of printing paper was imported from Canada. Further imports of printing paper during 1938 will continue to be made at very low levels.

Total exports during the first half of 1938 was 127,907,000 pounds, the volume being 8 per cent more than for the corresponding period in 1937. Japanese paper manufactures are reported to be anxious to maintain exports at high levels, in view of the decline in domestic consumption and also for the purpose of securing foreign exchange. It is expected that shipments during the second half of 1938 will be fairly well maintained, although it appears that they will fail to surpass the high level of the second quarter.

Export data show that for the second quarter of 1938, exports of pasteboard lead with a volume of 19,257,047 pounds; newsprint came second with a volume of 7,610,966 pounds, and "Yakigami" ranked third with a volume of 7,284,452. "Yakigami" is a cheap paper shipped largely to China, where it is burned in the observance of religious rites. Of the Japanese exports for the second quarter of 1938, the largest volume went to Kwantung Province. The next largest volume was to China and the third largest volume was to "Manchukuo." (Office of the American Commercial Attache, Tokyo)

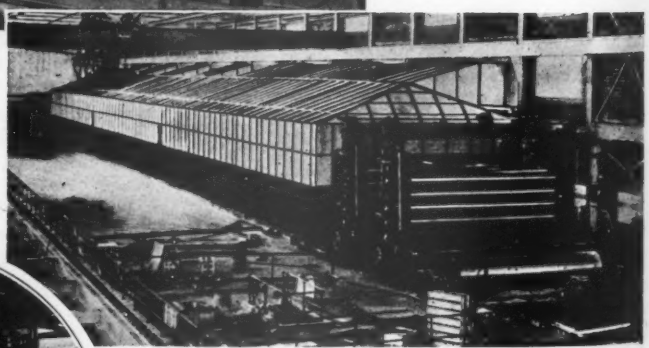
McGregor Visits California

● George McGregor, superintendent of the Longview mill, Pulp Division, Weyerhaeuser Timber Company, left the plant the week of August 21st on a trip to California. While down in the sunny state, he paid a visit to the old gold fields, visiting Virginia City and other famous mining towns.

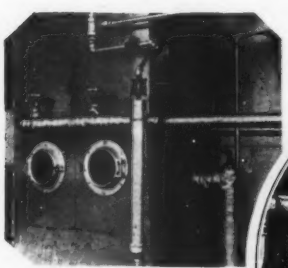
ROSS

HEATING VENTILATING AIR CONDITIONING DRYING

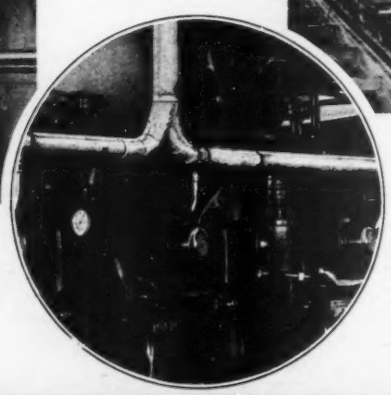
At Left: View of modern machine room in prominent new mill for which Ross Heating and Ventilating equipment was specified. Machine is equipped with Ross Removable Panel Hood shown in photograph.



Below: Part of complete controlled air conditioning apparatus such as is being installed by Ross in prominent mills.



In Circle: Section of Ross Grewin High Pressure Ventilating System for more even drying across entire sheet.



Let the long experience of Ross engineers save money for you on your equipment needs.

Above: The Ross Hood shown over the machine is one of the largest we have built. Other Ross equipment in this mill is used to introduce and distribute the large qualtities of air required to prevent condensation and aid in drying the felts.

Practically all new mills that have gone into operation this year are utilizing Ross equipment for Heating, Ventilating, Drying.

J. O. Ross Engineering Corporation

Main Office—350 Madison Avenue, New York

201 North Wells St., CHICAGO, ILL. 1253 Greeley Ave., DETROIT, MICH. 2000 N. W. Front Ave., PORTLAND, ORE.

Japanese Consumption of Domestic Pulpwood

• The Bureau of Foreign & Domestic Commerce of the U. S. Department of Commerce has recently issued bulletins which give data on the consumption of pulpwood in the Japanese Empire. This data is of interest to American pulp producers.

The data presented covers fiscal years from 1932 through to 1938, the latter being preliminary. In the 1932-1933 year the consumption of domestic pulpwood (imported logs not included) amounted to 6,735,649 koku or 1,616,575 cords, on the basis of 1 koku equalling 120 board feet and 500 board feet to the cord.

This consumption rose to 1,868,689 cords in the year 1936-1937 and to 2,098,000 cords in the year 1937-1938.

These consumption figures include logs from Karafuto (Japanese Saghaline), Hokkaido, Chosen, and Japan Proper. Of the totals above Karafuto consumed more than 60 per cent of the total for the Empire.

The data is from the Japanese Department of Agriculture and Forestry as reported by the Japan Lumber Research Institute.

Japanese Newsprint Production Expands In Second Quarter

• In contrast to the 50 per cent curtailment in the production of printing, writing, drawing paper and cardboard Japanese newsprint production increased in the second quarter of 1938 over the same period of 1937.

Newsprint production was 213,956,000 pounds in the second quarter of this year against 209,586,000 pounds in the corresponding period in 1937. Sales in the 1937 quarter were 201,209,000 pounds while in the second quarter of 1938 sales amounted to 224,579,000 pounds.

Newsprint Price Situation

• British Columbia newsprint operators are convinced that a definite newsprint price will be established before long and publicly announced, but they intend to wait for eastern mills to set the figure and they will then fix their course. They expect to go along with the eastern mills on price policy, as in the past few years, and they don't expect a reduction.

"Talking about newsprint prices at this time is just so much speculation, and it's the sort of speculation that doesn't do the trade any good," remarked one newsprint executive in Vancouver, who admitted that his company had so far signed no new contracts for 1939.

It is understood that Powell River Company and Pacific Mills, the two big British Columbia producers, are continuing to supply their customers with newsprint at $50 base price and will do so pending announcement of a change in the price set-up in the east.

Unsettlement abroad has been one factor in delaying price announcement, but the fact that U. S. newsprint mills have been selling at $48 a ton is not expected to result in trimming the present $50 Canadian base price. It was also considered that increased entry of European newsprint might be a factor in lowering the prevailing price, but figures were quoted in the east to show that imports to the United States from Germany, Norway and Sweden and Finland had actually declined, and publishers were warned that shipments from Europe would be jeopardized by the outbreak of war.

One on Mr. Brooks of Powell River

• Up at Powell River they are still telling about Harry K. Brooks' visit there a few weeks ago. Mr. Brooks, manager of the Brooks-Scanlon Lumber Company at Bend, Oregon, is reputedly the principal stockholder of Powell River Company, of which he is incidentally treasurer.

On his trip to Powell River he was accompanied by a friend, Louis Weber. While Weber went on ahead, Mr. Brooks stayed on the dock supervising the unloading of his car. In leisurely fashion Brooks eventually sauntered towards the big mill and sought entrance to No. 7 machine room. He was stopped by a young man who demanded to see Mr. Brooks' pass.

"I haven't got one," said Brooks. "I never had one. I'm Mr. Brooks."

But "Mr. Brooks" meant nothing to the young man. It was a case of "Show your pass or nothing doing."

So Brooks returned to the boat to wait for the arrival of some local executive who could identify him. While he waited his friend Weber returned.

• "I had a great time," announced Weber. "I went right through the mill; saw the new No. 7 machine room and everything. A wonderful plant you've got here."

Somewhat amazed, Brooks asked Weber if he'd been asked for his pass.

"Oh, no," replied Weber, who has no official connection with the company. "They told me to come right in and make myself at home."

Oriental Trade Will Revive Says McKenzie

• War may have disrupted trade with the Orient, but it hasn't spoiled the possibilities of tremendous ultimate expansion in the Pacific Northwest's exports of pulp and paper to Japan and China, according to H. J. McKenzie, manager of Export Sales Company, which represents Powell River Company and Pacific Mills, Ltd., in Far Eastern markets.

Mr. McKenzie recently returned from a two months' visit to Japanese and Chinese cities where he made a thorough survey of market ptospects in territory that previous to the present conflict had been one of British Columbia's most important sales outlets.

He found China in no position to place orders at present, owing to the ravages of war and their accompanying dislocation of trading channels, and he learned that Japan was too preoccupied with the business of carrying on its campaign to sanction the financing of any imports other than war essentials.

But Mr. McKenzie also found, especially among the Chinese, an eagerness to resume the marketing associations broken by the war. "They want our pulp and paper and intend to get it when conditions have improved sufficiently, but they are not in a position to finance buying yet, and in some cases wouldn't know what to do with the stuff if they had it," reported Mr. McKenzie.

"In China and Japan consumption of paper has been drastically reduced, and for a variety of reasons. In China many of the mills that used to buy pulp from us have been destroyed or are temporarily shut down owing to the general political unsettlement. Business has been so upset and populations so scattered that the paper trades have naturally suffered a steep decline. But recovery is already in evidence. In Shanghai, in spite of the tremendous losses suffered, business has climbed back to about one-third its volume before the present war, and that is an amazing achievement. The improvement is continuing fast.

"In Japan the need for newsprint is even greater than in China. Because of the widespread destruction in China and paralysis of business the demand for paper is naturally less than it would be in Japan, where the cities have been undisturbed by warfare and business goes on pretty much as usual. In Japan, however, a real sacrifice is being made for the war and the consumption of paper has been dractically reduced. Smaller editions of newspapers are being issued and in order to economize in the use of paper smaller type is being used in the printing houses. In addition, the use of paper for wrapping has been greatly curtailed.

• "Japan has been compelled to ignore its forest policies in its need for raw supplies. Unable to import pulp or pulpwood from this country, the Japanese mills have been cutting into the forests of Hokaido, Korea and Saghalien, and in some cases wood has been brought in from Manchukuo, but I understand that the results in the last instance have been anything but happy."

Mr. McKenzie says that China may emerge stronger, economically, from the war, even though it may take years to show this effect. "In the past most of the progressive Chinese were in the coastal area," he said. "They were progressive because they had contact with foreigners. But the war has driven many of these Chinese into the interior, and many of them will stay there. Their influence towards modernizing interior China is bound to be felt in a few years, and an expanding market will follow."

There may be an entirely new financial set-up in the Orient with Japan dominant in a large secton of China, Mr. McKenzie believes, but he contends that business will still be done "China-fashion."

"No race on earth is as adaptable as the Chinese," said Mr. McKenzie. "They have suffered losses that would drive most of us to despair. In a financial sense, the damage done in certain sections of coastal China is incalculable, and there has been great loss of life, too. But the resilience of the Chinese has not suffered, nor has their business philosophy. They are already collecting the remnants of their shattered commerce and building anew."

Many Chinese factories which were ruined in the native section of Shanghai are now establishing plants in the International or French concessions, Mr. McKenzie reports.

Sulphite Pulps From Heartwood and Sapwood of Several Growth Types of Western Hemlock

by JOHN N. McGOVERN, Assistant Technologist,
and G. H. CHIDESTER, Senior Engineer*

Summary

● The yield of sulphite pulp from western hemlock sapwood was found to be from 3.2 to 6.7 per cent higher than from heartwood from the same tree. Sapwood pulps had in general, higher tearing but slightly lower bursting and tensile strengths than heartwood pulps.

As sapwood is transformed into heartwood in the living tree, certain physical and chemical changes take place which give rise to differences between the two portions of a tree that affect the yield and quality of sulphite pulps prepared from the two types of wood. This report is concerned with such pulping differences between the heartwood and sapwood from western hemlock (Tsuga heterophylla) of several growth types.

While considerable information is available on the sulphite pulping of heartwood and sapwood of certain species, such as the pines, only a small amount of data has been obtained on the more common pulpwood species.

In general for softwoods, as Ritter and Fleck[7] have pointed out, the water, ether, and alkali extracts are higher in heartwood than in sapwood, and as a result the lignin and cellulose contents are correspondingly lower in heartwood (except in white spruce where the lignin and cellulose contents of the two portions of the tree are approximately the same).

The yield and quality of pulps from the heartwood and sapwood of species commonly used in sulphite pulping have been compared in several instances. Hagglund and Hansen[4] found no appreciable differences in the yield or strengths of pulps from spruce heartwood and sapwood, although the average fiber lengths of the two woods varied considerably. On the other hand, Klem[8] reported Kinnman to have obtained yields of 44 per cent from heartwood and 48 to 50 per cent from sapwood.

Experimental Part

● The yields and properties of pulps from heartwood and sapwood were compared in these experiments by means of digestions of western hemlock of three growth types. The types consisted of young, rapid-growth wood and old, slow-growth, and very young, very rapid-growth wood. The physical and chemical properties of the whole woods from which the heartwood and sapwood samples were obtained have already been described.[1,2] The chemical properties of the heartwood and sapwood pulped in this study are presented in table 1.

The effect of heartwood and sapwood in pulping was compared by making three series of digestions, numbered A, B, and C, differing in the maximum temperature used or in the temperature rise to the maximum temperature. The conditions used in these experiments are tabulated in table 2. A 50-pound capacity digester[6] was used, described in a previous report. Sufficient heart and sapwood of the young, rapid-growth wood was available to make full-scale semi-commercial digestions in series A and B, one digestion being made of each kind of wood at the two temperatures. The two types of wood in series C, however, were cooked in baskets placed in the semi-commercial digester as previously described.[6] In the latter instance, two identical digestions were made of the heartwood and sapwood samples, although the duplicate pulps were subsequently mixed for the strength and bleach tests.

For evaluation the various pulps were bleached and tested according to the methods standard at the Forest Products Laboratory.[3] The pulps from the young, rapid-growth wood in series A and B were processed in a pebble mill and the pulps from the other two types of wood in series C were processed in both the pebble mill and beater. The data from all these tests are found in tables 3 and 4.

Discussion

Chemical Properties of the Wood

● The chemical properties of the western hemlock heartwood and sapwood used in these experiments differed in several respects (table 1). The heartwood in the wood of all types contained an appreciably lower amount of cellulose than the corresponding sapwood, the difference ranging from 1 per cent in the young, rapid-growth wood to 4 per cent in the old-slow-growth wood. In the old,slow-growth and very young, very rapid-growth woods the alpha-cellulose content of the heartwood was also lower than that of the sapwood, while the reverse was noted for the young, rapid-growth wood. In the two rapid-growth woods the lignin content was higher in the heartwood while in the slow-growth wood there was little difference. The extractives content of the heartwood from all the wood types was considerably higher than that of the corresponding sapwood; this difference was especially pronounced in the old,slow-growth wood.

Time of Pulping

● The generally higher lignin content and lower permeability of the heartwood might be expected to result in a somewhat slower pulping rate for this wood as compared with the sapwood in the production of pulps of equal bleach requirement. Actually, this proved to be only partially true. The heartwood from the young rapid-growth wood was pulped slightly more slowly than the corresponding sapwood as shown by the higher bleach requirements — 2 to 3 per cent — of the heartwood pulps produced at 140° and 148° C. On the other hand, the heartwood and sapwood from the other two types were pulped in the same time as shown by their identical pulp bleach requirements.

*Forest Products Laboratory, Forest Service, U. S. Department of Agriculture. Maintained at Madison, Wisconsin, in cooperation with the University of Wisconsin.

Pulp Yields

● The pulp yields from the sapwood were higher than those from the coresponding heartwood for all the types of wood digested. The screened yield of sapwood pulp from the young, rapid-growth wood was 3.5 per cent (pulp basis) higher in series A and 3.2 per cent higher in series B than that of the corresponding heartwood pulps; this spread was slightly greater when the yields were adjusted from the small differences in bleach requirement. The other two types of wood in series C showed an even greater difference in pulp yield from sapwood and heartwood; the yield of sapwood pulp from the old, slow-growth wood exceeded that of heartwood pulp by 6.7 per cent and the yield of sapwood pulp from the very young, very rapid-growth wood exceeded that of heartwood pulp by 5.5 per cent. These results are in accordance with the cellulose and extractives contents of the various wood samples.

Pulp Strengths

● The heartwood and sapwood pulps produced in these experiments differed quite definitely in some respects. In general, the heartwood pulps had higher bursting and tensile and lower tearing strengths than the corresponding sapwood pulps. The following more detailed discussion of the strength properties of the various pulps is based on pebble mill data from different milling periods in series A and B (table 3) and beater data at two processing freenesses, 800 cc and 550 cc, in series C (table 4). (Complete pebble mill data were not compiled for series C and these data are, therefore, omitted from this report.)

Bursting Strength

● When the young, rapid-growth heartwood and sapwood were pulped at 148° C. (series A), the resulting pulps had the same initial bursting strength, but as the pulps were processed in the pebble mill the heartwood pulp immediately developed a higher bursting strength value and maintained this advantage throughout the milling; both pulps milled at the same rate. When these same woods were pulped at 140° C. (series B) the heartwood pulp had a higher initial bursting strength and a higher early developed strength, but had the same maximum strength as the sapwood pulp. The beater tests of the heartwood and sapwood pulps from the old, slow-growth wood (series C) showed the heartwood pulp to have a considerably higher bursting strength at both freenesses. In contrast to this finding, the beater bursting strength tests of the heartwood and sapwood pulps from the very young, very rapid-growth type (series C) showed the former to have a slightly higher value at 800 cc freeness, but showed both pulps to have the same value at 550 cc freeness. Thus in all of the cases the heartwood pulps had higher early-developed strengths and higher or equal maximum bursting strengths, as compared to the sapwood pulps.

Tearing Strength

● The heartwood pulps from the young, rapid-growth wood pulped at both 148 and 140° C. (series A and B) had higher pebble mill tearing strengths in the unmilled state than the corresponding sapwood but had lower maximum tearing strength. The heartwood pulps from the old, slow-growth and very young, very rapid-growth woods (series C) had possibly lower tearing strengths at both freenesses than the corresponding sapwood pulps, although the differences were small. The general trend, then, was toward lower tearing strengths for the heartwood pulps.

●

TABLE I

Chemical Analysis of Western Hemlock Heartwood and Sapwood

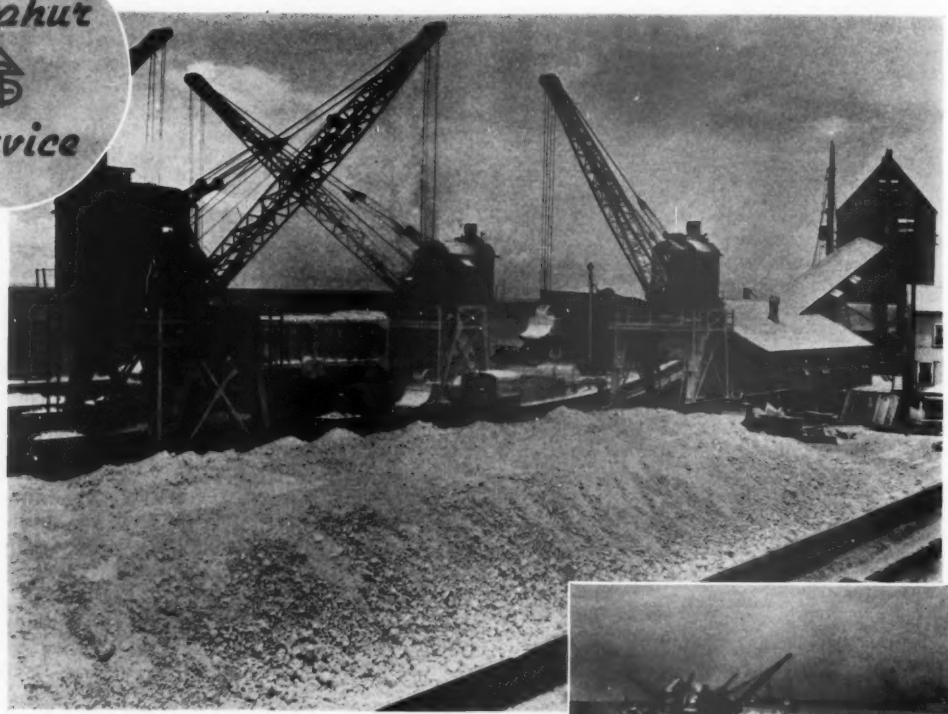
Wood			Alpha cellulose	Cellulose	Lignin	Pentosans		Solubility in			
Type	Age class	Growth class				Total	In Cellulose	Alcohol-benzene	Ether	One per cent NaOH	Hot water
			Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Heartwood	Old	Slow	43.3	55.5	27.4	8.0	6.1	10.0	2.0	20.1	8.1
Sapwood	Old	Slow	45.2	59.8	27.8	9.1	6.5	2.4	.7	12.8	3.0
Heartwood	Very young	Very rapid	42.6	57.3	30.3	8.5	7.0	2.8	.8	13.4	3.6
Sapwood	Very young	Very rapid	44.1	60.7	28.4	8.3	6.1	1.7	.6	11.8	2.7
Heartwood	Young	Rapid	43.4	57.8	31.8	8.3	—	4.5	.2	14.4	3.5
Sapwood	Young	Rapid	41.7	58.9	30.1	8.4	—	2.1	.2	12.1	2.2
Heartwood	Average all growth types		43.1	56.9	29.5	8.3	6.5	5.8	1.0	15.6	5.1
Sapwood	Average all growth types		43.7	59.8	28.8	8.6	6.3	2.1	.5	12.2	2.6

TABLE II

Digestion Conditions Used In Pulping Western Hemlock Heartwood and Sapwood

Series	Wood Type		Acid			Time to 110° C.	Time at 110° C.	Time to maximum temperature	Total digestion time	Maximum temperature	Maximum pressure
	Age class	Growth class	Total SO_2	Free SO_2	Combined SO_2						
			Per cent	Per cent	Per cent	Hours	Hours	Hours	Hours	°C.	Pounds per sq. in.
A	Young	Rapid	5.5	4.25	1.25	2.0	0	8	11.0	148	65
B	Young	Rapid	5.5	4.25	1.25	2.0	0	10	13.5	140	65
C	Old Very young	Slow Very rapid	5.5	4.35	1.15	1.5	1	4	9.5	140	75

Sulphur Service



RELAY STATION *for* SULPHUR

Our shipping point at Galveston is a relay station. Here stocks of Sulphur are maintained at all times to assure cargoes for the ships carrying supplies of this basic raw material to major ports on both coasts.

Process plants need never be without their supplies of pure Sulphur, a product without arsenic, selenium or tellurium.

• • •

Hand in hand with production and transportation is Research and from Texas Gulf's research activities have come many useful products. One of the latest is the casting of sulphur pipe.

TEXAS GULF SULPHUR CO.
75 E. 45th Street New York City
Mines: Newgulf and Long Point, Texas

Table 3.—Series A and B.—Yields, bleach requirements, and strength properties of sulphite pulps from western hemlock heartwood and sapwood

Wood Type	Age class	Growth class	Yield of pulp: Total	Screened	Screenings	Bleach required for 85 parts blue	Pebble mill strength tests 25x40-500 revs: Bursting strength after milling: 0 min.	20 min.	40 min.	60 min.	80 min.	100 min.	Tearing strength after milling: 0 min.	20 min.	40 min.	60 min.	80 min.	100 min.	Folding endurance after milling: 0 min.	20 min.	40 min.	60 min.	80 min.	100 min.	Tensile strength after milling: 0 min.	20 min.	40 min.	60 min.	80 min.	100 min.
			Percent			Percent standard bleach powder	Points per pound per revs						Grams per pound per revs						Double folds						Pounds per square inch					
Series A. Maximum temperature 148° C.																														
Heartwood	Rapid		47.2	45.8	1.4	15	0.21	0.76	1.02	1.27	1.30	1.24	1.56	2.94	3.31	2.56	2.44	2.15	2	114	696	841	1224	1184	1547	3127	4287	4952	4990	5335
Sapwood	Rapid		47.7	47.4	.3	13	.23	.60	.88	1.11	1.18	1.12	1.31	3.05	3.43	3.01	2.72	2.37	2	32	117	333	1014	1264	1759	2230	3410	4430	4537	4562
Series B. Maximum temperature 140° C.																														
Heartwood	Rapid		47.1	46.6	.5	11	.29	.88	1.01	1.19	1.19	.....	1.62	3.35	3.10	2.82	2.87	.....	4	450	569	621	1296	.....	1815	3372	3707	5017	4247	.....
Sapwood	Rapid		48.5	48.1	.4	8	.17	.65	.96	1.13	1.20	1.11	1.42	3.07	3.85	3.44	2.75	2.31	1	35	454	1110	1426	1232	1274	2536	3887	4460	4187	5025

Tensile Strength

● The trends shown by the tensile strength data confirmed the superiority of the heartwood pulps displayed by the bursting strength data. The heartwood pulp in series A had nearly the same unmilled pebble mill tensile strength as that of the sapwood pulp, but had higher values throughout the milling range. The heartwood pulp in series B had a higher unmilled tensile strength than that of the sapwood pulp, but had much the same maximum tensile strength. The beater tensile strength tests of the pulps in series C showed the heartwood pulp from the old, slow-growth wood to have appreciably higher values at both freenesses than the sapwood pulp and the heartwood pulp from the very young, very rapid-growth wood also to be superior at both freenesses.

Folding Endurance

● Folding endurance data are available only for the pulps from the young, rapid-growth wood (series A and B). In both the series the heartwood pulps had higher folding endurance values in the early stages of milling but reached approximately the same maximum.

Conclusions

● Chemical analyses of the western hemlock heartwood and sapwood pulped in the experiments reported here showed the heartwood samples to have lower cellulose contents by 1 to 4 per cent, equal to higher lignin, and considerably higher extractives contents than the sapwood, varying with the wood growth type. Sapwood pulp yields were 3.2 to 6.7 per cent higher than the corresponding heartwood pulp yields, depending on the wood growth type. In general, the heartwood pulps had slightly higher bursting and tensile strengths and lower tearing strengths than the corresponding sapwood pulps.

Literature

[1]Forest Products Laboratory. Evaluation of western hemlock pulpwood, shipment 1369. (Mimeograph report)

[2]Forest Products Laboratory. Evaluation of western hemlock pulpwood, shipment 1465. (Mimeograph report)

[3]Forest Products Laboratory. Manual of standard testing methods for pulpwood, pulp, stuff and paper. (Mimeograph report)

[4]Hagglund, E., and Hansen, S. Acta Acad. Aboensis Math. Phy. 3:45 pp. (1923)

[5]Klem, G. G. Papier J. 21 (13, 15):126-8, 144-8 (July 31, Aug. 29, 1933).

[6]McGovern, J. N. Paper Trade J. 103 (20):297-310 (Nov. 12, 1936).

[7]Ritter, G. J. and Fleck, L. C. Ind. Eng. Chem. 15 (10):1055 (Oct. 1933); 18 (6):576 (June, 1926).

Bill Donaldson Visits Friends on the Coast

● W. H. (Bill) Donaldson, sales manager of the pulp department of the Perkins-Goodwin Company, pulp and paper brokers of New York City, was a Pacific Coast visitor in September.

Mrs. Donaldson and their youngest daughter accompanied Bill on a combination vacation and business trip. First they stopped at Banff and Lake Louise, then visited Vancouver and Victoria before arriving in Seattle where they stayed for some time.

They returned home from Los Angeles, stopping in Texas enroute.

Mrs. Donaldson said that Bill didn't really enjoy his vacation until they reached the Pacific Northwest where there were plenty of pulp and paper mills close at hand.

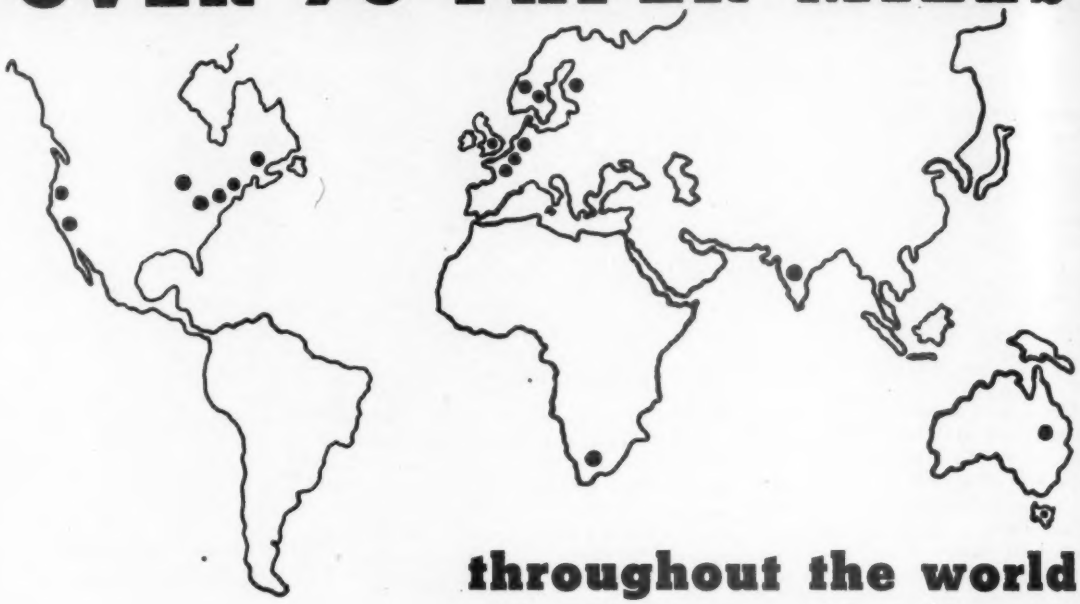
Art Zimmerman Back From Skagway

● Arthur Zimmerman, manager of the Pacific Straw Paper & Board Company at Longview, is back from a vacation trip that took him to Alaska. He went to the northland aboard a steamer that cruised as far as Skagway, and had a good rest away from making paper.

Table 4.—Series C.—Yields, bleach requirements, and strength of sulphite pulps from western hemlock heartwood and sapwood

Wood Type	Age class	Growth class	Yield of pulp: Total	Screened	Screenings	Bleach required for 85 parts blue	Beater strength tests 25x40-500 revs: Bursting strength: Freeness S.R. 800 cc.	550 cc.	Tearing strength: Freeness S.R. 800 cc.	550 cc.	Tensile strength: Freeness S.R. 800 cc.	550 cc.	Solid fraction: Freeness S.R. 800 cc.	550 cc.	Beating time: Freeness S.R. 800 cc.	550 cc.
			Percent			Percent standard bleach powder	Points per pound per revs		Grams per pound per revs		Pounds per square inch				Minutes	
Heartwood	Old	Slow	42.7	41.9	0.8	20	1.22	1.56	1.70	1.25	7700	12600	0.49	0.56	22	70
Sapwood	Old	Slow	44.9	44.7	.2	20	1.04	1.39	1.85	1.40	6200	11000	.50	.60	20	72
Heartwood	Very young	Very rapid	44.2	44.0	.2	18	1.24	1.46	1.40	1.25	9500	12200	.52	.61	27	82
Sapwood	Very young	Very rapid	46.5	46.4	.1	18	1.18	1.45	1.45	1.30	8800	11200	.54	.60	26	79

OVER 70 PAPER MILLS



throughout the world assure clean paper stock with VORTRAPS

Vortrap installation in the screen room of a paper mill.

These mills have an economic advantage—for CLEAN Stock assures CLEAN Paper, consequently—less rejects—fewer complaints.

The following VORTRAP facts should be of interest:

VORTRAPS are low in first cost . . . easy to install . . . simple to operate . . . occupy little floor space . . . have low power consumption . . . have low maintenance—no moving parts (although employing the principle of centrifugal action) . . . give continuous operation (accumulated dirt is removed without interfering with either the Vortrap or the paper making machine).

Write today for data on Vortrap operation.

NICHOLS

ENGINEERING & NERCO RESEARCH CORP.

60 WALL TOWER NEW YORK, N. Y.

James Predicts Japanese Pulp Market Will Revive

● Extent of Japan's economic preparation for theSino-Japanese conflict is too often minimized, according to Ernest W. James, president of A. Cameron & Company of Kobe, importers, exporters and sales representatives for several Pacific Coast pulp mills in Japan.

Mr. James says that Japan made heavy purchases of pulp and other materials during the past five years on the assumption that she would need vast stores in the event of hostilities. While the war with China may have taken considerably longer than Tokio at first anticipated, and while the cost has probably been greater than contemplated, Japan still has large reserves, says Mr. James, who spent a few days in Vancouver, B. C., on his way east to Montreal. He plans to return to the Orient in a few weeks.

"As for market prospects in Japan, nothing can be said with any degree of certainty," said Mr. James. "Despite her withdrawal from the foreign market for months, Japan still has large stocks of pulp.

"Japan is unlikely to start buying again until political conditions are more settled. So long as the war lasts, the country will make an effort to get along with as little buying from outside as possible. When the war is over, there is no doubt that there will be greatly increased demand for Pacific Northwest forest products, notably pulp."

Penn Salt Issues Chlorine Handling Bulletin

● The Pennsylvania Salt Manufacturing Company has recently issued a 32-page bulletin titled Liquid Chlorine. It contains the latest practical information regarding the properties and the safe utilization of chlorine and its compounds.

A section of the bulletin is devoted to wood pulp chlorination with an illustration of the Penn Salt Company's method of applying chlorine dispersions in pulp bleaching.

Copies of the bulletin are obtainable from the Pennsylvania Salt Manufacturing Company of Washington, Tacoma, Washington, or from the Pennsylvania Salt Manufacturing Company, 1000 Widener Building, Philadelphia, Pa.

Type E-1 High Lift Platform Trucks

● Elwell-Parker's newest addition to its technical bulletin file describes the E-1 tiering, telescoping Platform Truck with rated capacities of 3000 and 4000 pounds.

The drive axle is of simple rugged design, equipped with an Elwell-Parker, 500 per cent overload, heavy duty and high torque motor. Motor is direct-connected to free coasting worm and wheel.

All steering rods are above trail axle for greater road clearance and accessibility.

Lift, width, and length of platforms are available according to operating requirements.

Bulletin furnished upon request by The Elwell-Parker Electric Co., Cleveland, Ohio.

Al Quinn Passing The Cigars

● Albert S. Quinn, the well known vice-president of the Stebbins Engineering Corporation and secretary-treasurer of the Pacific Coast Division of the American Pulp and Paper Mill Superintendents Association, became the proud father of a boy at 3:10 p. m., October 10th.

Mrs. Quinn and the youngster were doing fine as this issue went to press. Mr. and Mrs. Quinn have three other children, two boys and a girl.

New Merrick Feedoweight Bulletin Published

● The Merrick Scale Mfg. Company of Passaic, New Jersey, have just issued their Bulletin No. 388 which gives valuable and complete data on the Merrick Feedoweight.

This machine, of new and patented design, will accurately deliver any pre-determined amount of material, by weight, over any period of time. Such rate of delivery may be easily and quickly changed by the operator, to any amount within the range of the machine. In addition, the machine totalizes the weight of the material so delivered.

The Merrick Feedoweight finds wide application wherever feeding, proportioning or batching of any material is desired. It is particularly adapted to use in the pulp and paper industry, for salt cake feeding in the Tomlinson recovery process, in the control of soda ash, and for many other like operations.

Copies of this bulletin No. 388 are available to anyone interested by writing to either the Merrick Scale Mfg. Company at Passaic, New Jersey, or, on the West Coast, to Irving R. Gard & Company, 908 Lowman Building, Seattle.

Camas Clubs Hold Dance

● On September 24 the Crown Willamette Inn was the scene of a joint dance of the Camas mill's Office Club, Technical Club and Foremen's Club. Among those attending was Albert Bankus of San Francisco, vice-president of Crown-Zellerbach Corporation.

Bureau of Standards Further Studies Effect of Light

● The paper section of the Bureau has reusmed one of its uncompleted projects dealing with the preservation of records —the effect of light on the stability of papers. In its previous work, the Bureau demonstrated, as has been done elsewhere, that ordinary sunlight is very destructive to papers of all kinds. However, it is known that by removing some of the component light rays by means of various colored glasses, it is rendered less harmful to paper and other materials. Amber colored glass is considered helpful and is used to some extent in libraries and museums. But more definite information is desired, and it is proposed to expose a variety of record papers to light filtered through glasses of different colors, and measure the relative deteriorative effects on the papers as indicated by decrease in strength and changes in chemical characteristics.

Tom Bannan Married In Seattle

● Thomas J. Bannan and Arline Spaulding Pessemier were married at a nuptial mass held at 9:15 a. m. Saturday, September 24th at St. Joseph's Church in Seattle and are now on their honeymoon in the east.

Mr. Bannan is well known in the pulp and paper industry on the Pacific Coast as vice-president and general manager of the Western Gear Works of Seattle and of the Pacific Gear & Tool Works of San Francisco and Los Angeles. He is also a director of the Pacific National Bank of Seattle and president of the Washington Metal Trades, Incorporated.

He served as general chairman of the winter meeting of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association, held in Seattle in December of last year.

● Berk A. Bannan is secretary of the Western Gear Works, manufacturers of gears and gear reducers of all types.

Ronan Joints Powell River

● Edward I. Ronan, formerly sales manager of B. C. Pulp & Paper Company, has joined Powell River Company as traffic manager. No other staff changes are involved in the appointment; it represents a consolidation of duties previously divided among several departments.

Dr. Kobe Presented Paper at Milwaukee

Dr. Kenneth A. Kobe of the Chemical Engineering Department of the University of Washington in Seattle attended the meeting of the American Chemical Society at Milwaukee September 5th to 9th, where he presented a paper before the Cellulose Division.

The title of Dr. Kobe's paper was, "Exothermal Decomposition of Wood Impregnated with Flammable Organic Liquid."

While in Wisconsin Dr. Kobe visited the U. S. Forest Products Laboratory at Madison, Wisconsin, returning to Seattle late in September.

Van Arnam Recovering From Pneumonia

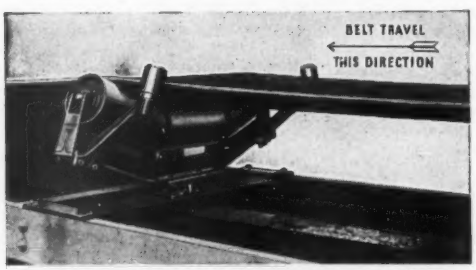
● W. J. Van Arnam, office manager of the Crown Willamette mill at Camas, is in the Portland Open Air Sanitarium, recovering from a severe attack of bronchial pneumonia. He is coming along well and expected back on the job early in November.

Big News From Pumpkin Center

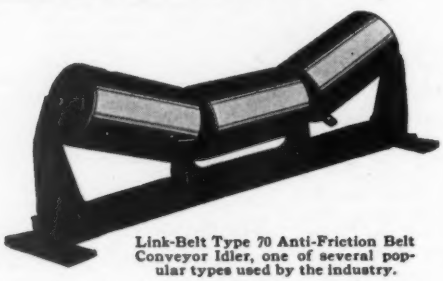
● Friends of "Dad" Wood, who supervises sulphite production for Crown Willamette at Camas, were somewhat alarmed when catastrophe visited his home town, Pumpkin Center. A heavy truck loaded with a 10-ton tractor barely missed his house and crashed into the store across the street.

The tractor went on in and smashed the interior, causing general havoc. "Dad" viewed the wreckage and remarked that "when caterpillars come in, the butterflies."

Modernize Your Chip Handling Methods with LINK-BELT ANTI-FRICTION CONVEYORS



Link-Belt Positive Self-Aligning Idler, spaced at suitable intervals, automatically maintains the conveyor belt in a central carrying position without injury to its edges.



Link-Belt Type 70 Anti-Friction Belt Conveyor Idler, one of several popular types used by the industry.

● Good idlers are of vital importance to satisfactory belt conveyor operation. They preserve the belt, reduce power requirements and maintenance expense, and give long, trouble-free service. Link-Belt Anti-Friction Idlers are the product of years of specialization in this field. Among the more recent developments is the Link-Belt Positive Self-Aligning Idler for automatically maintaining the proper position of belt. Submit your conveyor problems to Link-Belt, and let us furnish you the style and type of equipment that will bring you the best results.

We manufacture a complete line of elevators, conveyors and chains of all kinds, as well as power transmission equipment such as silent and roller chain drives, speed reducers, variable speed transmissions, anti-friction and babbitted bearing pillow blocks, clutches, couplings, take-ups, gears, etc. Catalogs sent on request.

LINK-BELT

Conveying-Power Transmission Equipment

LINK-BELT COMPANY

San Francisco	400 Paul Ave.
Seattle	820 First Ave., S.
Los Angeles	361 S. Anderson St.
Portland, Ore.	1637 N.W. 14th Ave.
Oakland	526 Third St.

7401-A

"To What Extent Is Waste Paper Being Displaced by Pulp in Board Manufacture?"

● The following editorial of interest to pulp manufacturers appeared in the Daily Mill Stock Reporter published in New York City. It shows that waste paper has lost 20 per cent of its volume in board manufacture to wood pulp.

"There has been much written and a great deal more said, especially during the doleful months late in 1937 and the first half of the current year when dormant conditions prevailed in the waste paper market and prices of waste paper were unprofitably low, about the displacement of waste paper by wood pulp as a raw material for the manufacture of paper board.

"To what extent is pulp cutting into consumption of waste paper in the manufacture of board? It is a moot question, difficult to answer. It would be most helpful to the waste paper industry if something accurate on the subject could be determined, because definite knowledge of the actual trend would constitute an excellent guidance for waste paper dealers.

"The only procedure feasible is to delve into figures compiled on paper board production and waste paper consumption by board mills, and from these statistics ferret out some statistical conception of the trend that really exists. Perhaps the findings give an accurate idea of what is taking place, and maybe not, but at any rate they should prove of prime interest to the waste paper industry.

"During the first five months of 1938 —January to May, inclusive—paper board production in the United States was 1,458,568 short tons, while waste paper consumption by board mills amounted to 1,096,874 short tons, according to latest data compiled and issued by the U. S. Census Bureau in collaboration with the National Paperboard Association. Thus, waste paper consumption was at the rate of 75.2 per cent of paper board production. For every ton of waste paper consumed by board mills, 1.33 tons of board was manufactured, the figures divulge.

"In the similar five-month period a year ago, 2,001,285 tons of paper board was produced and 1,602,120 tons of waste paper consumed. Waste paper consumption was 80.0 per cent of board output, and for every ton of old paper used by board mills, 1.24 tons of board was manufactured.

"During the same five months two years ago, or in 1936, board output was 1,413,000 tons and waste paper consumption 1,180,514 tons, giving a waste paper consumption as contrasted to paper board production of 83.5 per cent, and 1.19 tons of board being manufactured for each ton of waste paper used. statistics shows that, based on the volume of paper board production, waste paper consumption by board manufacturers has declined not quite 5 per cent this year from one year ago, and has fallen 8.3 per cent from two years ago. This does not appear to be a very large reduction, but when it is considered that board mills consume something well over three million tons of waste paper in a normal year, a loss in consumption of 8 per cent amounts in round figures to a quarter of a million tons of waste paper, truly an item of importance.

"Going back a bit further to 1929, which was a year of boom conditions in industry generally, waste paper consumption was at 94.2 per cent of paper board production for that entire year, and for every ton of waste paper used by board mills only 1.06 tons of board was manufactured. This presents a more impressive picture, because compared with eight years ago, waste paper consumption at present shows a decrease of 19 per cent, which indeed is a serious drop.

"This is a loss of almost one-fifth in waste paper use by board mills, or in other words, for every five tons consumed in 1929, only approximately four tons now are being consumed at the identical rate of board production."

The Swedish Point of View

● The September 15th issue of The Swedish Wood Pulp Journal comments upon the pulp situation in part as follows:

"Most of the business done in the summer months has, as before, consisted of conversions of earlier contracts, usually associated with agreements to take delivery of further quantities in 1939. Total cancellations of contracts have probably been rare, however, and the statistical sales situation for 1939 has been considerably improved by these sales and conversions, although the quantities sold for 1939 are naturally not by a long way as large as those sold by this time of the year in 1936 and 1937 for delivery during the coming year.

"Unfortunately the prices have not developed favorably during the summer, and the kraft pulp prices in particular have decidedly declined. Some time ago it was announced in the American market that the home producers had lowered their quotations for bleached sulphite from $55 to $50 per ton. That reduction has so far had no effect on the prices of imported pulp."

(This is the first issue of the Swedish Wood Pulp Journal to appear since July 11th when the printing trades unions in Sweden went out on a strike which affected all magazines, hence the necessity to refer to the past summer's pulp market is one general statement.—Editor).

Harrison Wins Tennis Title

● In the Longview Fibre Company tennis turnament, Maury Harrison emerged the champion. He entered the finals with Bill Sipple, defeating him for the championship title.

Black-Clawson Announce "A Fourdrinier As You Would Build It"

● The Black-Clawson Company of Hamilton, Ohio,, builders of paper mill machinery, recently announced a new fourdrinier design featuring simplicity, non-corrosive construction and mobility.

The new design is the direct result of suggestions of many mill superintendents and several are already in daily service. One of the fourdrinier's new features is its unit design permitting installation a step at a time.

In the bulletin announcing the development Black-Clawson emphasize five points of interest. Quoting:

● "1st. You see a flow box that is different—a flow box with a single compartment, with a midfeather—a flow box with the controls all on the top within easy reach of the operator—a flow box of all metal construction, ends of cast iron or steel, interior of a non-corrosive metal supported by structural steel, midfeather also of metal. Built to last.

"2nd. You see an unusually effective kind of formation table. With all due respect for the kind of formation table you may favor, this one supports the wire where the liquid weight of the stock is the greatest, permitting a more gradual disposition of fibers on the wire—hence a more thoroughly matted formation. Better pop tests.

"3rd. You see a table roll section that can be rolled out into the aisle a section at a time, making it far easier to change wires. Nothing heavy or cumbersome.

"4th. You see table roll bearings and table rolls and side rails, all of noncorrosive material. Good for a lifetime.

"5th. You see a simplified, lighter supporting structure for the table roll section, another reason two or three men can change the wire and do it in jig time. Convenience and time saved."

Black-Clawson go on to say in the bulletin, "Every year since the first automobile appeared, there have been good automobiles . . . good for their day. And yet who would claim that the car of 1928 is as good as the car of 1938?

J. D. Jenssen Visits Pacific Coast

● J. D. Jenssen, president of the G. D. Jenssen Company of New York City was a Pacific Coast visitor the latter part of September. Mr. Jenssen visited his company's representative on the Pacific Coast, A. H. Lundberg of Seattle.

Max Zimmerman Visited Son

● Max Zimmerman, retired manager of the United Paper Board Co. mills, recently returned to his home at Lockport, N. Y., after spending a month on the Pacific Coast visiting with his son, Arthur Zimmerman, manager of Pacific Straw Paper & Board Company at Longview.

German Paper Industry In 1937

Total paper consumption in Germany rose from 33.3 kilograms per capita to 36.8 during this period. It is stated that the 1937 production was on a level with 1929 and that converted products attained 92.9 per cent of its 1929 peak.

The following data will give an idea of the size of the German paper and paper goods manufacturing industires. While these data relate to 1936, it is not believed that there has been any change in the number of existing plants during the past year. The number of persons employed by the industry is, however, said to have increased appreciably.

Item.	Small and Medium Size Plants	Number of Employees	Large Plants	Number of Employees
Paper production	394	7,479	406	100,433
Paper refining	54	960	46	8,405
Paper Working	1,635	25,218	439	66,218
Wall paper industry	17	315	23	2,523

● Marked shortage of raw materials is a serious problem to the German paper industry. A reduction in foreign exchange quotas seriously reduced imports of wood pulp and other raw materials. To compensate for such reduction, domestic wood, chiefly fir and beech, is to be used on a much wider scale. Present plans also call for the erection of additional wood pulp mills in Germany, and more straw pulp is also to be manufactured. Statistics show that in 1937 between 3,200,000 and 3,500,000 metric tons of straw were converted into cellulose in Germany. The present plans call for an increase in these amounts to 7,500,000 metric tons. This will necessitate the erection of mills with an average productive capacity of 80,000 to 100,000 metric tons annually in various parts of the country easily accessible to the straw supply. By enlisting the aid of the Hitler Youth organizations throughout Germany it is also hoped that collections of waste paper will yield materially larger returns. In addition to the shortage of wood pulp, other materials used in the manufacture of high-grade paper such as rosin and textile fiber are becoming ever scarcer. Some relief from the present situation is expected to be afforded by the greater use of Austrian wood pulp and other raw materials which will now be included in German production.

Information supplied by well informed sources indicates that the quality of the paper manufactured for domestic consumption has been steadily lowered. Efforts are being made, however, to maintain the quality of the materials intended for export, despite the marked shortage of raw materials.

Recent official statistics indicate that in the 3 year period 1935 to 1937 inclusive German manufacture of paper and paper products expanded considerably, although it failed to regain the volume attained in 1929. Moreover, it was only in 1937 that the increase in value of exports of paper and paper products surpassed that of the rise in quantity, indicating an actual improvement in prices had taken place. While the German paper industry has not yet succeeded in raising exports to the desired level, manufacturers are nevertheless pleased with the progress made during the past few years in the face of keen foreign competition and other obstacles. They are particularly gratified that in 1937 export prices likewise improved. Some pessimism has been expressed, however, regarding the maintenance of exports in 1938. If exports for the first 4 months of the current year are compared with the same period in 1937, a considerable decrease is already evident. The downward tendency of international industry and trade is held responsible for the present slackening in the export market. (American Consulate, Cologne.)

● Germany's production of paper and paperboard during the calendar year 1937 as compared with 1936, according to the official trade statistics, was as follows:

Item.	1936 Metric Tons (2204.6 lbs.	1937 Metric Tons (2204.6 lbs.
Writing and printing paper	1,237,000	1,334,000
Wrapping paper	857,000	959,000
Special paper	427,000	543,000
Paste board	628,000	733,000
Total	3,149,000	3,569,000

Greater German Production of Textile Raw Materials

● The volume of textile raw materials of domestic production available for use by German spinning and weaving mills now includes that part produced by Austria. Production of rayon and staple fibers in the two countries, now united, during the years 1932, and 1936, and 1937 is given below in metric tons(metric ton=2,204.6 pounds) as follows:

	1932	1936	1937
Germany, Rayon	33,400	45,500	52,900
Austria, Rayon (about)	640	600	600
Germany, Staple fiber	2,994	42,800	100,000

●

GERMAN WOOD, WOOD PULP PAPER AND PAPER GOODS

Imports—Exports—1933-1937

	Imports January/December					Exports January/December				
	Quantities in metric tons									
	1933	1934	1935	1936	1937	1933	1934	1935	1936	1937
Wood for wood pulp	2,472,329	3,018,303	2,821,966	2,243,504	1,663,240	61,958	15,994	10,607	1,305	.....
Wood fibre, cellulose	137,126	144,497	143,868	157,181	185,157	264,983	316,089	301,034	235,982	166,431
Paper and paper goods	22,387	21,341	14,922	13,631	14,774	331,548	290,549	373,752	458,201	521,359
	Value in 1000 RM.									
Wood for wood pulp	46,216	62,295	60,471	49,700	45,854	981	329	205	24	.....
Wood fibre, cellulose	16,455	17,478	15,590	16,162	21,786	28,377	31,145	26,759	21,062	16,616
Paper and paper goods	12,418	11,635	17,731	6,992	6,270	155,464	132,632	146,870	168,444	182,033

Foreign Trade Balance

	Quantities in metric tons					Value in 1000 RM.				
	1933	1934	1935	1936	1937	1933	1934	1935	1936	1937
Wood for wood pulp	—2,410,371	—3,002,309	—2,811,358	—2,242,199	—1,663,240	—45,235	—61,966	—60,266	—49,676	—45,854
Wood fibre, cellulose	+127,857	+171,592	+157,166	+ 78,802	+ 18,727	+11,922	+13,667	+11,169	+4,900	+5,170
Paper and paper goods	+309,161	+269,207	+358,760	+144,570	+506,585	+143,046	+120,997	+139,139	+161,452	+175,763

The foregoing figures indicate the increase in production in Germany as against an opposite trend in Austria over the 5 years. However, since production in Germany during this period increased 300 per cent and assuming that a similar rise can also take place in Austria, the volume of production in the latter country can be expected to reach 2,000 metric tons. In 1924 the annual rayon production in Austria had reached around 1,200 metric tons, but has fallen to about 600 metric tons annually in recent years. An increase of several hundred per cent is stated to be entirely within the bounds of possibility.

For German plants making synthetic spinning fibers, Austria's wood supply will be of great importance, while the requirements of spinning fibers for domestic products on the part of highly developed Austrian textile industry will make itself felt in the entire field of textile raw material production. (American Consulate, Dresden.)

Growth of Wood Pulp Production in France

• There were only 11 chemical pulp mills and 17 mechanical pulp mills in France prior to the World War, producing a total of 155,000 metric tons of pulp. The industry was disrupted during the war and in 1920 production had fallen to 40,000 tons of chemical pulp and 40,000 tons of mechanical pulp. Between 1922 and 1930, 300,000,000 francs were invested in the industry, and by 1931 the output of chemical pulp had risen to 90,000 tons and mechanical pulp to 70,000 tons annually. Capacity of these mills, however, was reported to be 150,000 to 160,000 tons for chemical pulp and 200,000 to 220,000 tons for mechanical pulp. French production of wood pulp during 1937 reached a total of 361,78 metric tons, divided as follows:

	Metric tons
Unbleached sulphite	48,481
Unbleached sulphate	35,734
Bleached chemical pulp	16,425
Alpha pulp	4,639
Rag and other pulp	5,000
Semi-chemical pulp	5,644
Mechanical pulp	245,155

(American Consulate, Nantes).

Decline of French Pulp, Paper Production

• Although no figures are available for production during the first 6 months of the current year, it is obvious that the sluggish French market for the past 6 months must be resulting in a considerable slowing-up in production. During this period the market has been very dull, few transactions being reported, and French importers have been obliged to refuse delivery of lots ordered. Paper prices remained practically unchanged during the second quarter, lack of demand preventing rises and high productions costs precluding tangible reductions.

A decree was published under date of May 25 permitting the recovery of lost hours not to exceed 100 per annum, nor one per day, providing that workmen who have effected such supplementary hours may not be discharged for lack of work within one month, or if discharged after one month, they are to be accorded priority of reengagement within 6 months after discharge. (American Consulate, Nantes)

The French Paper School

• The French Paper School founded in 1907 and attached to the University of Grenoble, constitutes one of the branches of the Polytechnical Institute in the same category as the Electrotechnic Institute, and the School of Hydraulic Engineers.

Since 1928 the French Paper School has been administered by the Societe Anonyme de l'Ecole Francaise du Papier, whose head office is at 154 boulevard Haussman, Paris. This arrangement assures the perfect liaison between the University of Grenoble and the paper industry for which these paper engineers will work.

From 1907 to 1935 there were 600 pupils, of whom 200 were foreigners. Of the French graduates 50 hold choice posts in the construction of paper machinery and in the paper and pulp trades, 50 are foremen in paper mills, and 50 are chiefs of division. Instruction is both theoretical and practical in everything that concerns paper and auxiliary lines as well as the usual fundamentals in engineering.

French final baccalaureat en sciences, or a similar foreign degree secures admission without an examination to the first year course. Those without this degree must pass an examination in mathematics, physics and chemistry. Those having passed an examination approximately the same as the admission examination to the Ecole Centrale des Arts et Metiers of Paris are admitted directly into the second year course. A special section is reserved for graduate engineers of superior schools of France or abroad. Candidates are admitted without examination to the elementary section but are expected to have an education corresponding to that of graduates of French industrial schools. (American Consulate, Nantes)

Pulp and Paper Production In Italy in 1937

• The output of paper and board in Italy during 1937 reached a total of 510,655 metric tons (metric ton equals 2,204.6 pounds), according to figures from the Ministry of Corporations. This production figure is based on a reported output of 214 establishments and does not include the production of plants employing less than 15 employees. The 1937 production represents an increase of 83,246 metric tons, or approximately 20 per cent over the 1936 production, which was reported at 427,409 tons. Indications as to the relative importance of the various classes of paper manufactured is to be found in the production data published by the National Fascist Federation of Paper Manufacturers. Exclusive of the straw paper manufacturing industry, composed mostly of small establishments, the members of the Paper Federation represent about 75 per cent of the production volume of paper and board. The Federation reports the following production and sales for the years 1936 and 1937:

	1936		1937	
	(Metric Tons)			
	Produc.	Sales	Produc.	Sales
White and colored paper ..	195,200	191,000	219,600	221,800
Wrap. paper ..	63,400	55,800	75,600	73,300
Straw paper	9,200	9,100	9,900	9,900
Cardboard	37,600	34,400	49,700	47,900
Total	305,400	290,400	354,800	352,900

The Federation figures indicate an increase in the total 1937 production of 16.5 per cent over 1936, and in sales an increase of 21.9 per cent. Compared to 1936 production and sale, wrapping paper increased 19 and 31 per cent, respectively, and cardboard 38 and 39 per cent.

Production of wood pulp in Italy during 1937 represented a total of 183,883 metric tons, according to statistics released by the Ministry of Corporations. The production figure for 1937, however, is not complete, inasmuch as it does not include the output of plants employing less than 15 employees. The output of mechanical wood pulp amounted to 167,675 tons, representing an increase of 31,624 tons, or approximately 27.5 per cent over the 1936 production, reported at 113,126 tons. Production of chemical pulp during 1937 amounted to only 37,133 metric tons, representing an increase of 13,562 tons, or approximately 57.5 per cent over the 1936 production of 23,571 tons.

In addition to the domestic production Italy imported during 1937 4,700 metric tons of mechanical pulp and 246,500 tons of chemical pulp. Imports during the preceding year amounted to 4,000 and 220,200 tons, respectively. Exports of both mechanical and chemical pulp from Italy are negligible, so that the above figures represent the total consumption during the years mentioned. (Office of the American Commercial Attache, Rome)

Establishment of Newsprint Industry in Australia

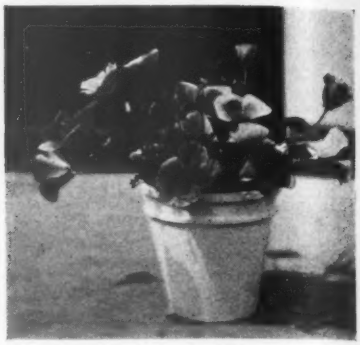
• The incorporation in Tasmania of the Australian Newsprint Mills Proprietary Limited, with a capital of 4,000,000 shares of £1 each (£1=$4.9698 United States Currency) has been engaging the attention of the Australian Tariff Board for some time.

Application was made to the Tariff Board on behalf of the company for a bounty of £4 a ton on an estimated production of 27,000 tons. It was suggested that this bounty may be met by the imposition of a duty on imported newsprint in rolls sufficient to recoup the Commonwealth Treasury.

The company is being promoted by certain leading Australian newspaper publishing companies and the Government of Tasmania.

A great deal of publicity has been given during the past few weeks to the discussions of the establishment of the new industry. It has been claimed that those newspapers which were not shareholders in the proposed new industry had no protection except a 5-year contract. The application is opposed by a number of the leading newspapers of Sydney and Melbourne which base their opposition to the scheme on the grounds that the new industry would be uneconomical, that the bounty would inflict heavy penalties on small newspapers and might drive some out of the field; that it would create a monopoly controlled by the biggest newspaper interests in the Commonwealth; and that the promises of the applicants in outlining the future of the company were based on conjecture and speculative estimates which had been inadequately explained. (American Consulate General, Sydney.)

Flower Pots From Old Newspapers



W. P. LASS Developes Successful Business at Santa Cruz, California

● A forming machine, with arms almost human, is in steady production at the W. P. Lass Co., Inc., plant at Santa Cruz, Calif., converting old newspapers into flower pots and other molded wood fiber hollow ware.

W. P. Lass, head of this Company, formerly was with the Alaska Pulp & Paper Co. and in his Santa Cruz operation is using the Alaska firm's patent rights, under license, combining them with his own patented developments. Associated with him is his son, Francis Lass, an experienced mechanic.

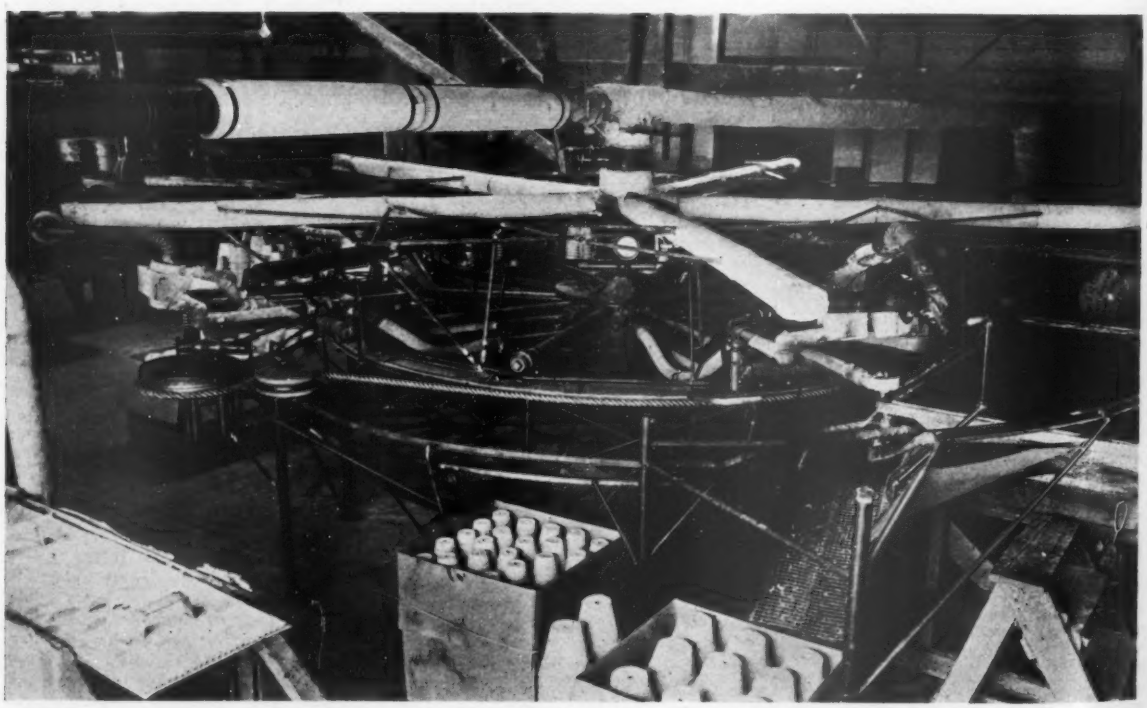
"Fibrelite" is the trade name of the products of the Lass plant and flower pots and bulb bowls make up the output at present but the manufacture of milk bottles and oil and grease cans has been found practical.

In operation, the forming machine looks something like a very large cartwheel revolving in a horizontal plane; twenty spokes or arms radiate from the hub and at the end of each is a compound mold which opens up to eject the molded article just before it reaches the pulp vat on its circuit around the hub. Old newspapers and wood pulp from which the articles are made are thrown into a beater where they are hydrated and then pumped in water solution to the vat which stands to one side of the wheel. After the mold has dropped the completed article, it closes again and dips down into the vat to fill with pulp solution.

● The sections making up the mold are made of fine bronze screening backed by a box-like enclosure leading into a pipe which, in turn, is connected through a manifold hub to the vacuum pump. As the closed mold dips into the vat, suction is applied which draws a coating of pulp against the front of the screen. The water passes through the screen and back into storage tanks while the mold lifts out of the vat to meet a pipe through which hot air is blown into the hollow inside of the article being formed, thereby drying it completely by the time it gets back around to the vat and is ejected.

After being molded and dried in one operation, the pots are saturated with a hard, air-blown asphalt to make them durable and water-proof. They are finished in colors designed to make the florist shop a more attractive display place for potted plants. It is said, florists who are using them find that their sales increase because of the added beauty and convenience in their display. "Fibrelite" pots are said to reduce moisture evaporation and insulate plant roots against sudden temperature changes.

Sales of the fibre flower pots are good, Mr. Lass says.



FIBRELITE Flower Pots are made on this ingenious machine in the plant of W. P. Lass & Company, Incorporated, Santa Cruz California.

Trade Talk

of Those Who Sell Paper in the Western States

San Francisco Warehouse Strike Affects Paper Jobbers

● San Francisco's leading paper distributor's warehouses were closed again October 4 as an outgrowth of the general warehouse strike which has been in progress since early in July. As PACIFIC PULP & PAPER INDUSTRY goes to press, negotiations are in progress to end the strike and it is hoped that this outcome will be brought about shortly. All these paper houses, members of the San Francisco Paper Trade Conference, are however conducting their business on a drop shipment basis, and are using the available stocks of other members of the paper distributing trade located outside of San Francisco.

The leading members of the paper distributing industry in San Francisco are also members of the Association of San Francisco Distributors, a non-profit corporation, the purpose of which is to "promote, establish, and maintain peaceful and harmonious relations between employers and employees, to encourage the establishment of wages, hours, and working conditions, fair and just to both the employer and employee, and to procure the honest and faithful observance of all agreements and obligations by all parties concerned."

As a means towards accomplishing this purpose, the members of the Distributors Association have proposed to the International Warehousemen's Union, C.I.O. affiliate, which represents a majority of employees in this industry, that present contracts with the several hundred distributors be combined into one general contract — all equities of both parties being preserved. The members of the Association feel that by so doing, unreasonable demands of both employer and union official can be adjusted by collective bargaining on both sides.

● In the past, it has been the policy of the union to single out an employer or group of employers for individual action and if the union feels it necessary, to declare a strike without applying the same pressure to others in the same industry. For example, in March this year, the union made demands upon the members of the paper distributing industry for an increase in wages of from 10 cents to 15 cents per hour, a 40-hour week, and changes in the seniority clause. After many negotiations, an ultimatum was served by the union that unless certain revised demands were accepted, the union would go on strike four hours later. This strike was called July 16, and ended August 8, when the union agreed to renew the same contract which they had signed last year, with no concessions from the employers.

The union had likewise singled out the F. W. Woolworth Company, which had had many strikes called against it alone, and the Hiram Walker Company for action and these two houses have been strike bound since early in July.

A freight car was loaded by executives of the Woolworth Company and sent first to the public warehouses and later to other distributors for unloading. Despite provisions in the public warehouse contract against strikes, and provisions that men must perform work as required, the men in the public warehouses refused to unload the car and were discharged by their employers.

● There are a large number of contracts which have expired, some as early as last December, which have not been renewed, although negotiations have been engaged in during the past 10 months. Many members of the distributing industry, rather than take an unfair advantage of each other, likewise closed their establishments when the Woolworth car was not worked.

"Hot Susie," as the car was dubbed by strikers, was later sent to the members of the paper distributing trade for unloading, and despite a contract similar to the public warehouse contract, providing that men must perform work as required, these men also refused to unload the car and were discharged on October 4.

The contract with the union was signed by the Association of San Francisco Distributors on behalf of the leading paper distributors, and as a consequence, a violation of this contract constituted a nullification, in the opinion of the members, and most paper distributors likewise closed their warehouses, and these are still closed as this issue of PACIFIC PULP & PAPER INDUSTRY goes to press.

Attempts are being made, not only by the paper distribtuors, but by all other distributors in San Francisco, to arrive at a settlement as quickly, and on as fair a basis as possible. The unions have been offered a general contract, which would not deprive them of any of the advantages which they now enjoy under existing or expired contracts. This proposal means that the men will receive no reduction in pay; no increase in number of hours worked; and no restrictions of vacation privileges. So far, this offer has not been accepted by the union.

The San Francisco paper distributors are represented in the Association of San Francisco Distributors by E. A. Breyman, vice-president, Zellerbach Paper Company; Arthur Towne, vice-president, Blake, Moffitt & Towne, and Charles Beckwith, manager, Carter, Rice Company. Both Breyman and Towne are members of the board of directors of the association.

Cochran Locates In Rialto Building

● Andy Cochran is back on the coast selling paper and says he's very glad to be back.

Offices of "Andrew H. Cochran, Paper" have been opened in the Rialto Building, at Mission and New Montgomery Street, San Francisco and here Andy makes his headquarters selling for the Mead Sales Company, Dill & Collins, Inc., Wheelwright Papers, Inc., Marvellum Company, Beveridge-Marvellum Company, Falulah Paper Company, Pejepscot Paper Company and Curtis Paper Company.

Some years back Mr. Cochran was with the Cascade Paper Company at West Tacoma, Washington, and later with Bonestell & Company, San Francisco. In 1935 he joined with Dill & Collins and associated companies and in 1937 was sent to Chicago. Now he is back.

Hugh Wallace, who took Cochran's post on the coast, is now in New York for Dill & Collins.

Robert E. Corcoran, Sr.

● Robert E. Corcoran, Sr., an old timer in the paper industry in Southern California, passed away suddenly at his home in Fullerton in mid-September. Mr. Corcoran was connected with the Pioneer Paper Company in the early days. He is survived by three sons and four daughters and by thirteen grandchildren. Three of his sons are like their father, paper men. Ted Corcoran heads the Corcoran Paper Company and has affiliated with him his brothers, Milton and R. E. Jr. Mr. Corcoran, Sr., retired a few years ago.

Charbonneau Joins Silkolin Paper Co.

● Wm. H. Charbonneau, formerly of the Northern Paper Mills of Wisconsin, recently joined the staff of the Silkolin Paper Company in its Los Angeles office where he will be associated with Kenneth R. Ross. Mr. Charbonneau was with the Milwaukee company for four years following his course at the University of Wisconsin.

Terence Denison

● Terence M. Denison, sales manager of the printing department of Blake Moffitt & Towne, Los Angeles office, died by his own hand September 20. Mr. Denison had completed his thirty-eighth year in the service of Blake Moffitt & Towne the first of September. He was fifty-five years of age, and is survived by a son.

Paper Mill Reps. Plan Annual Hi Jinks

● At the September dinner meeting of the Paper Mill Men's Club of Southern California the forthcoming Fourth Annual Invitational Golf Tournament and Hi-Jinks, which will be held October 7, held the spotlight. Reports on the progress of the various committees responsible for the event were made, and two acts to be presented at the Hi-Jinks were given a pre-view.

The dinner meeting occurred at the California Country Club. Preceding the meal some notable golf was played, including a hole-in-one by Vice-President Al Hentschel. President Geo. Weiman presided during the meeting and reports were made by Charles Spies, chairman of the Hi-Jinks committee; Tom Lyons, G. N. Madigan, A. A. Ernst, Kenneth R. Ross, W. A. McBride, Roy Gute and S. R. Whiting.

Ticket sales for the Hi-Jinks are going ahead well. Judging by plans and current prognostications, the October party will be its usual great success and will top all preceding affairs. Following the dinner meeting and the pre-view of the acts, the customary indoor sports were enjoyed.

Hugh Wallace Visits Coast Again

● Out from New York to survey business conditions on the Coast last month was Hugh Wallace, Mead Sales Co.

Bardeen of Lee Paper Makes Coast Trip

● M. D. Bardeen, president, Lee Paper Co., Vicksburg, Michigan, was a Pacific Coast visitor early this month.

H. L. Zellerbach, Victor Hecht Attend Paper Trade Meeting

● Harold Zellerbach, president, and Victor E. Hecht, vice-president in charge of promotion of the Zellerbach Paper Company, returned early last month from the National Paper Trade Association convention in Chicago.

Both Messrs. Zellerbach and Hecht attended the S. D. Warren Paper Co. convention at Poland Springs, Maine. Later Mr. Hecht attended the Hammermill Paper Co. convention.

Jaggard Visits Hoquiam Mill

● B. P. Jaggard, representative, Grays Harbor Pulp & Paper Co., is back at his desk after an extended trip to the mill at Hoquiam, Washington.

Zellerbach Wins Hammermill Awards

● Two beautiful red and gold banners proclaim to all who enter the San Francisco Division offices, Zellerbach Paper Company, that that firm is the national sales champion on Management Bond and Hammermill Cover. This was for the one year perod ending June 30, 1938.

Victor E. Hecht, vice-president in charge of promotion, brought the banners back with him from the Hammermill convention at Erie, Pennsylvania.

Small Towns Are Frank Luke's Hobby

● Small towns, literally, are the hobby of Frank Luke, salesman, Zellerbach Paper Company, Portland division. Not long ago Luke had a display in a window of a Portland florist, a miniature old-time Western town, made entirely from cigar boxes.

Every detail was complete, including a general store, a hotel, blacksmith shop, stable, saloon, jail, Wells Fargo depot, etc. Each building was shingled with tiny shingles.

It took Mr. Look 14 months to make the town, using as his only tools a coping saw, razor blade and tweezers.

Grauner Back From Eastern Vacation

● James A. Grauner, sales manager, Blake, Moffitt & Towne Company, San Francisco, is back at his desk after a two month's trip in the East visiting various paper mills represented by his company.

Byron Visits Grays Harbor

● Stanley Byron, head of the statistical department, Hammermill Paper Co., Erie, Pa., accompanied by his daughter, were Pacific Coast visitors this month. Mr. Byron visited the mills of the Grays Harbor Pulp & Paper Company, at Hoquiam en route.

Dray Starts Vacation By Breaking Arm

● The first day of his vacation was a tough one for Bert Dray, salesman, Los Angeles division, Zellerbach Paper Co., for just as he neared Catalina Island on his boat he slipped and broke his arm.

August Newsprint Statistics

● Production in Canada during August, 1938, amounted to 220,303 tons and shipments to 204,668 tons, according to the News Print Service Bureau. Production in the United States was 67,436 tons and shipments 66,006 tons, making a total United States and Canadian news print production of 278,739 tons and shipments of 270,674 tons. During August, 12,977 tons of news print were made in Newfoundland, so that the total North American production for the month amounted to 300,716 tons. Total production in August, 1937, was 430,491 tons.

The Canadian mills produced 741,110 tons less in the first eight months of 1937, which was a decrease of thirty and six tenths per cent. The output in the United States was 103,884 tons or sixteen and five tenths per cent less than in the first eight months of 1937, in Newfoundland 72,554 tons or thirty and four tenths per cent less, making a total decrease of 917,548 tons, or twenty-seven and nine tenths per cent.

Stocks of news print paper at the end of August were reported at 194,917 tons for Canadian mills and 23,987 tons for United States mills, making a combined total of 218,904 tons compared with 201,839 tons on July 31, 1938.

Envelope Workers Union Signs San Francisco Contract

● Acceptance by the Fibre Products and Envelope Workers' Union, Local 362, A.F.L., of a master contract covering five major San Francisco envelope manufacturing firms, was announced October 8 by the Industrial Association.

The contract, accepted by a union vote of 168 to 14, is substantially the same as last year's individual contracts, the Association said. Firms included are Pacific Coast Division, U. S. Envelope Co., Field-Ernst Envelope Co., The Envelope Corporation, California Envelope Co., and the National Envelope Co.

Murray In Middle West

● J. L. Murray, sales manager, Everett Pulp & Paper Company, left his San Francisco office October 7 for a two week's business trip to Chicago.

John E. Horton, in charge of stationery sales, San Francisco office, of the same company, left early last month for a two week's trip to the mills at Everett.

Stanley Taylor Visits Mainland

● Here for two weeks early last month from the Paradise of the Pacific was Stanley Taylor, Honolulu Paper Company, Honolulu, T. H.

Macormack Back From Strathmore Visit

● T. C. Macormack, Pacific Coast representative, Strathmore Paper Co., is back at his San Francisco office after an extended Eastern trip.

Employes Give Dance

● Employes of the Zellerbach Paper Company, San Francisco, tripped the light fantastic and had a right good time for themselves at the Treasure Island dance given by them at the Palace Hotel, October 15.

U. S. Pulp Imports Exports in July

● Imports of paper base stocks including pulpwood increased approximately 5 per cent during the month of July, showing a total of $8,087,026, according to the Bureau of Foreign and Domestic Commerce. This, however, was a loss of 32 per cent as compared with the same month in 1937. Total imports of wood pulp decreased about 7 per cent, with a total of 134,463 tons for July as compared with 144,558 tons in the month of June. This was also a loss of approximately 40 per cent compared with the month of July, 1937. Imports of unbleached sulphite pulp decreased 24 per cent during July, with a total of 50,463 tons. On the other hand, imports of bleached sulphite increased 28 per cent, the total tonnage being 27,029. However, this was a decrease of 49 per cent as compared with the month of July of last year. Unbleached sulphate imports, with a total of 39,315 tons, marked an increase of 6 per cent over the month of June of this year. Rags for paper stock decreased 10 per cent, while imports of all other paper stock increased about 24

per cent.

Total imports of paper and its manufactures decreased slightly for the month of July, with a total of $8,680,882, which was less than 1 per cent lower than the preceding month's imports. The main items which registered gains in our import schedule were hanging paper, which increased 29 per cent with a total of 24,876 pounds in the month of July; cigarette books and covers which increased 34 per cent, with a total of 117,665 pounds, and surface-coated paper which increased 4 per cent over the month of June, showing total imports of 115,856 pounds. Partially offsetting these gains was a decrease in the imports of kraft wrapping paper, which dropped approximately 7 per cent in the month of June, with a total of 1,637,028 pounds. This was also a loss of over 50 per cent, as compared with the imports of this same item in the month of July, 1937. Imports of other printing paper decreased 40 per cent during the month of July, with a total of 1,116,872 pounds. Newsprint paper imports showed a slight increase, with a total of 175,441 tons. This, however, was still approximately 42 per cent below the tonnage imported during the month of July, 1937. Imports of cigarette paper decreased 28 per cent, with a total of 1,027,868 pounds.

Exports of paper base stocks during July exceeded the June total by approximately 18 per cent. The largest single gain in wood pulp exports was registered in "other wood pulp," with an increase of 287 per cent. Unbleached sulphite, with a July total of 3,347 tons, increased 17 per cent over the preceding month, but this figure was still about 64 per cent below the same month in 1937. Exports of other paper stock decreased 7 per cent during July with a total of 4,272,406 pounds.

Exports of paper and paper manufactures showed a loss of 11 per cent during the month of July, with a total value of $1,983,918 as compared with $2,234,474 for the preceding month.

● The largest single gain in the exports of paper were shown in paper handings, which increased 79 per cent. This represented a total of 61,890 rolls as compared with 34,594 rolls for the month of June. Exports of boxes and cartons showed an increase of 62 per cent, having a total of 1,930,733 pounds. This was also an increase over the same month of last year. Vulcanized fiber sheets increased 23 per cent, with a total of 349,552 pounds. Partially offsetting these gains was a loss in cash register and adding machine paper of approximately 50 per cent. Total exports of this item for the month of July were 281,734 pounds. Exports of newsprint paper likewise registered a decrease of approximately 25 per cent, totaling 644,301 pounds. Uncoated book paper, with an aggregate of 1,035,908 pounds, decreased 9 per cent during July as compared with the preceding month. Overissue and old newspaper exports gained 10 per cent, with a July total of 9,878,744 pounds. This, however, was approximately 57 per cent lower than the quantity exported during July, 1937. Exports of wrapping paper except kraft gained 7 per cent during the month of July with a total of 2,290,566 pounds. Partially offsetting this gain was a loss in the exports of kraft wrapping paper, which decreased 12 per cent, falling from a June total of 1,237,201 pounds to 1,088,255 pounds during July. Surface-coated paper exports gained 9 per cent, with a total of 716,574 pounds. Oother large gains in exports were registered by bristols and bristolboard which increased 14 per cent, with a total of 210,719 pounds, and sheathing and building paper with a total of 1,002,764 pounds, which was a gain of approximately 2 per cent over the month of June. Large losses were registered in the exports of tissue and crepe paper, toilet paper, paper towels and napkins, and boxboard.

Market for Fruit Wraps in Ecuador

At the present time Ecuador offers a small market for the sale of fruit wraps, and it would appear that the demand is capable of considerable expansion.

Because of climatic conditions varying from tropical at sea level to that of the north temperate zone in the elevated sierra region, Ecuador is able to produce a wide variety of fruits including apples, oranges, pears, strawberries, bananas, limes, mangoes, chirimoyas, papayas, etc. Of these, only bananas, oranges and mangoes are exported extensively. Bananas go to the United States and Chile and are not subject to paper wrapping. In the past, oranges, and mangoes—shipped in a green, or semi-ripe state to Peru and Chile—have not customarily been wrapped but tissue wrappings are now becoming common due, primarily, to regulations at Chilean ports, and secondarily, to the efforts of Chambers of Commerce and other local organizations to improve the quality and reputations of Ecuadoran fruit reaching foreign markets. The following table shows the amount of and value of exports of mangoes, oranges and limes from Ecuador during 1936.

Varieties	Number	Value (U. S. Currency)
Mangoes	4,250,362	$ 4,794
Oranges	29,835,639	53,191
Limes	458,380	512

(American Consulate General, Guayaquil.)

Fruit Wrap Market In South Africa

● There is a very good market in the Capetown district for orange and apple wraps. Swedish wraps have hitherto been preferred in this market, owing to their relatively light weight compared with American wraps, and also to a smaller oil content. In this connection, regulations in respect to the export of deciduous and sub-tropical fruit provide that each apple must be wrapped in or surrounded by tissue or other more or less similar paper, except in the case of single layer trays, when wrapping shall be optional, but a top sheet must be used. (American Consulate General, Capetown).

SINCE 1912 the Puget Sound Power and Light Co. has paid $27,000,000 in taxes. These taxes have been translated into schools, public buildings, roads, and various functions of government and public welfare.

Our 1937 taxes totaled about two and one quarter million dollars. This was 2 3/4 times the tax bill for 1929 and equaled about $12 for every customer and $790 for every employee on the Puget Power payroll.

Washington needs Puget Power to continue building for a Greater Washington.

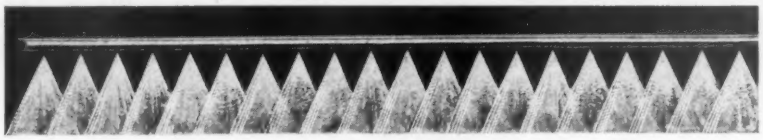
PUGET SOUND POWER & LIGHT COMPANY

PULP BLEACHING COMPANY

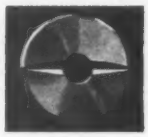
ORANGE
NEW JERSEY

●

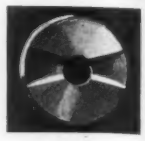
CELLULOSE PURIFICATION EQUIPMENT



Angle of jet about 45° — nozzles spaced for either single or double coverages
Set to overlap without interference



Outer face



Inner face

WATER SAVING UP TO 50%
COMPARED WITH STANDARD
DRILLED SHOWERS

Installation costs moderate, nozzles easily replaced.

Inside surface of pipe smooth and easily cleaned.

WALSH-WITHAM SHOWER PIPE

UNIFORM shower the full width of the machine, as compared with numerous sharp jets. Saves water and eliminates cutting of felts.

MAXIMUM EFFICIENCY because of direct impingment, no metal or hydraulic deflector.

CLOGGING ELIMINATED, permitting the use of white water because of the size of the orifice and the inside friction-free entrance, safe to use on Fourdrinier wires.

PACIFIC COAST SUPPLY COMPANY

343 SANSOME STREET
SAN FRANCISCO

664 PITTOCK BLOCK
PORTLAND

708 WHITE BUILDING
SEATTLE

Testing for Printing Properties of Paper

● The proceedings of a symposium dealing with the various testing methods being used for this purpose, which was held at the 1938 annual meeting of the Technical Association of the Pulp and Paper Industry, appear in the June, 1938, issue of the Technical Association Papers. The meeting was conducted by the chairman of the Paper Testing Committee, B. W. Scribner, of the National Bureau of Standards. Representatives of technical institutions, printing plants, and paper manufacturing concerns expressed their views.

It appears that the general feeling was that while the testing methods are of much assistance they are inadequate and considerable further development is required. Testing for smoothness and ink receptivity were the main topics.

Smoothness is tested for by measuring the rate of flow of air between the paper and a metal plate. There are three types of instruments being used and while the users consider them very helpful they apparently do not measure the same thing, as the test values obtained with the different types cannot be correlated. The amount of pressure on the paper and the permeation of air laterally through the paper were mentioned as factors that require further investigation.

The ink receptivity is tested for by finding the rate of permeation of oil or of printing ink, and various procedures are used. In testing hard papers the rate of permeation of a smudge of the oil or ink applied to the surface of the paper is sometimes used. For soft, absorptive papers the permeation through the paper is measured. A disturbing factor here is the large amount of testing medium used as compared with the amount of ink which a paper normally received when printed. Also that oil permeation may not be the same as ink permeation, and that ink itself is too variable for use as a testing medium.

In view of these difficulties and others, one investigator expressed the opinion that the only way to adequately test the printing quality of paper is to print it. Test presses have been developed for the purpose.

An association subcommittee under the direction of R. H. Simmons, Government Printing Office, is continuing its endeavor to develop standardized procedures which will be more satisfactory.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of Pacific Pulp & Paper Industry, published monthly at Seattle, Washington, for October 1, 1938.

State of Washington, County of King,—ss.

Before me, a Notary Public in and for the State and county aforesaid personally appeared Kemper Freeman, who, having been duly sworn according to law, deposes and says that he is the treasurer of the Pacific Pulp & Paper Industry, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Miller Freeman, 71 Columbia St., Seattle, Wash.
Editor, Harlan Scott, 71 Columbia St., Seattle, Wash.
Business manager, Lawrence K. Smith, 71 Columbia St., Seattle, Wash.

2. That the owner is:

Consolidated Publishing Co., 71 Columbia St., Seattle, Wash.

(Stockholders) Miller Freeman, Kemper Freeman, Wm. B. Freeman, Miller Freeman, Jr., L. K. Smith, W. E. Crosby, Geo. W. Cain, all of 71 Columbia St., Seattle, Wash.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

KEMPER FREEMAN, Treasurer.

Sworn to and subscribed before me this 4th day of October, 1938.

WINIFRED J. HENRY.

(My Commission expires September 16, 1941).

"NON-USERS ARE THE LOSERS"

TENAX FELTS

FINISH AND TRIM

LOOK BACK -- THEN AHEAD!

During the past 47 years, since TENAX FELTS were introduced in 1891, there have been "boom" years and "lean" years. Through all of which, TENAX FELTS have continuously kept abreast of conditions, and pointed the way of progress in paper making.

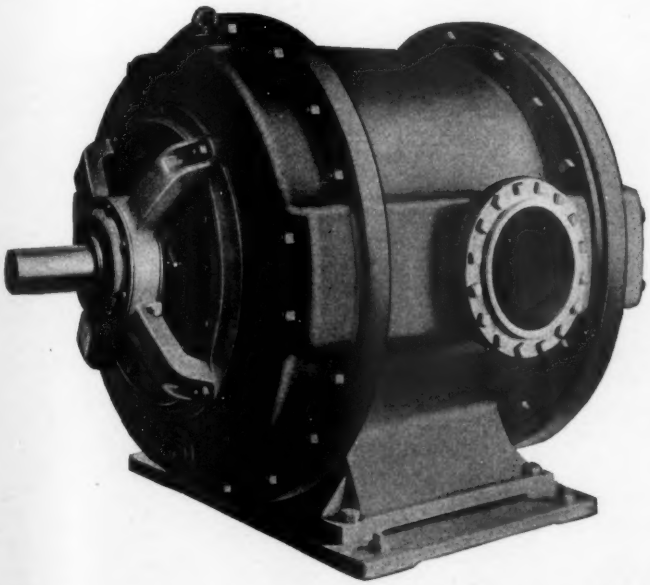
1938 again finds TENAX FELTS in the forefront of the battle for Low Operating and Manufacturing Costs; for Better Finish with Savings in Finishing Costs. Specify TENAX FELTS on your next order.

"Non-Users Are the Losers"

LOCKPORT FELT COMPANY
NEWFANE, N. Y.

Pacific Coast Representative: ALAN C. DUNHAM, Portland, Ore.

ONLY NASH VACUUM PUMPS HAVE ALL THESE FEATURES.



One Moving Element

Non-Pulsating Vacuum

No Internal Wearing Parts

No Internal Lubrication

Handles Liquid With Air

No Expert Attendance

Constant Efficiency

Low Maintenance Cost

THE NASH ENGINEERING COMPANY
SOUTH NORWALK, CONNECTICUT, U. S. A.

In the Forefront of

TECHNOLOGICAL PROGRESS

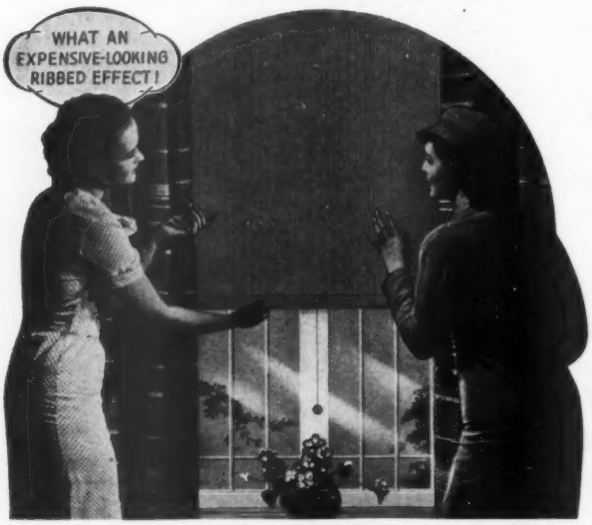


Photo by Courtesy The Clopay Corporation

FEW INDUSTRIES have contributed so much to the general distribution of comfort, beauty and utility among the masses of our people as has the paper industry. Even the shades that grace the windows in millions of American homes are, at base, nothing more or less than high grade paper. So inexpensive is the basic material that the price paid by the consumer for the finished article is but a small fraction of the price usually charged for window shades of other types.

But the cost and quality of paper are conditioned largely upon the speed and uniformity with which the excess water is extracted from the web. And because paper manufacturers for eighty years have found that Hamilton Felts do this work better, at higher speeds, on longer runs, with fewer stops and at lower cost, Hamilton Felts are now standard equipment on the paper machines that set the pace of technological progress.

From the thinnest tissue to the heaviest boards there is a Hamilton Felt that will do your work better, faster and at lower cost.

SHULER & BENNINGHOFEN

HAMILTON, OHIO

Miami Woolen Mills, *Established 1858*

Hamilton Felts

NATIONAL *Paper Dyes*

DYES FOR COLORED NEWSPRINT

Pink and Peach

National Safranine AP Conc.
Chrysoidine YP Conc. New
Chrysoidine RP Extra

Green

National Victoria Green
WBP Crystals

•

NATIONAL ANILINE AND CHEMICAL COMPANY, INC.

40 RECTOR STREET NEW YORK, N. Y.

BOSTON PROVIDENCE CHICAGO PHILADELPHIA SAN FRANCISCO CHARLOTTE GREENSBORO ATLANTA CHATTANOOGA PORTLAND, ORE. TORONTO

Branches and Distributors throughout the World

NATIONAL DYES

CRYING "STOP THIEF!"

WON'T STOP Slimform

WHEN profits disappear as a result of slime troubles in paper mills—impaired quality of product, increased production costs and loss in paper making materials—it's time to investigate the proven method of slime elimination used in over 200 leading mills today.

In your mill too—controlled application of chlorine and ammonia with W & T apparatus will successfully eliminate slime at a cost of from 1½ cents to 6 cents per ton of product. Research Publication #327 "Slime in Paper Mills—Its Origin and Prevention", reviews the evidence. Write for your copy today.

S tock losses—bacterial decomposition and reworking of stock

L owered Quality—slime spots—pin holes—objectionable odors

I ncreased Costs—in water—heat—labor—chemicals

M aintenance Troubles—blinded wires—plugged felts

F requent Clean-ups—slime breaks—poor sheet formation

O bstruction of Lines—stock and white water lines

R ecirculation Difficulties—slime growths in recirculated systems

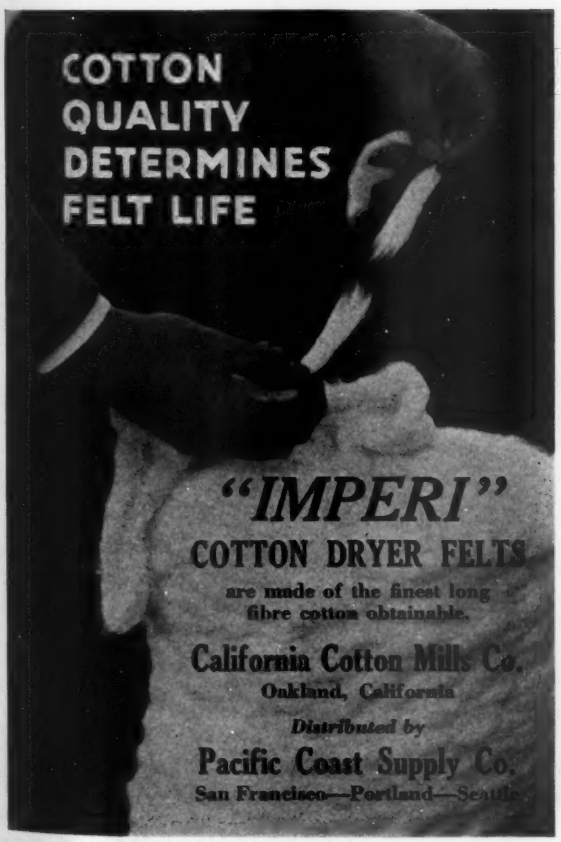
M echanical Strain on felts and wires—shortened useful felt and wire life

WALLACE & TIERNAN CO. INC.

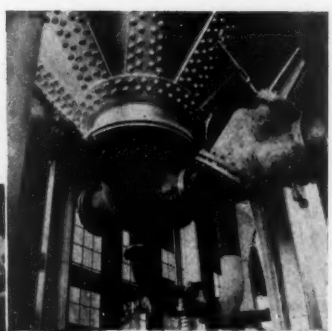
Manufacturers of Chlorine and Ammonia Control Apparatus · NEWARK, NEW JERSEY · Branches in Principal Cities

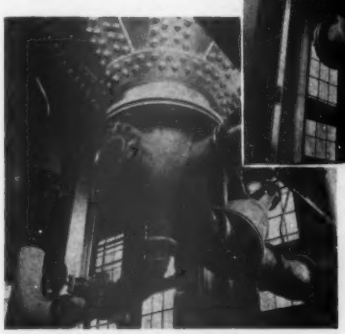
OTHER W&T CONTROL SERVICES:

Automatic pH Control · Dry Chemical Feeders · Bleach Plant Equipment · Testing Instruments for Chlorine and pH



for **Simplicity**





and **Safety--**

ESCO STAINLESS STEEL

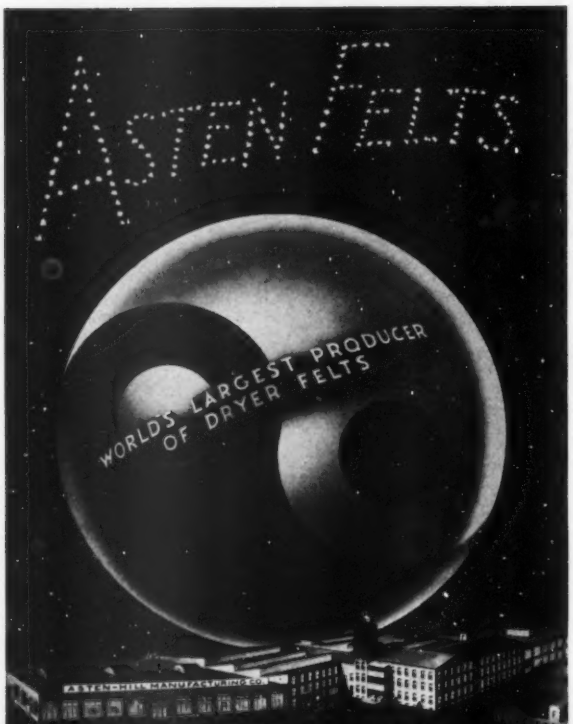
Blow Valves and Bottom Blow Fittings

"Engineered into your plant"

•

ELECTRIC STEEL FOUNDRY Co.

Portland, Oregon Seattle, Washington



ASTEN-HILL MFG. CO., PHILA., PA.
Asten-Hill, Ltd Valleyfield, Quebec
Pacific Coast Representative
Walter S. Hodges, Portland, Oregon

CUT COSTS
with CONTROLLED SPEED

The G-E Electric Governor It's a fact that the electric speed control on G-E turbines for paper machine drive makes a decided improvement in production. That's the report of the International Paper Company, Ticonderoga, New York, where the new governor stopped speed "drift" and eliminated poor regulation due to temperature changes. Such performance can assure you of the right speed for a more uniform product — can cut *your* operating costs. Call your nearest G-E office, or write General Electric, Schenectady, N. Y.

GENERAL ELECTRIC

Small WIRES

ENERGIZED!

EACH STRAND will take its place in EASTWOOD Weaves, to share a part in wear resistance. ★ Under the EASTWOOD process of wire conditioning, these research-proven alloys challenge mill conditions. ★ PERFORMANCE is the real measure of EASTWOOD WIRES. They reach the ultimate in service output and uniformly superior FINISH.

For more than sixty years "EASTWOOD" has set the Standard of Comparison.

EASTWOOD-NEALLEY CORP.
At Belleville, N. J. Since 1877
Pacific Coast Sales Agents
PACIFIC COAST SUPPLY COMPANY • San Francisco, Portland, Seattle

HOTEL GOWMAN

"WHERE HOSPITALITY CENTERS"

Our Coffee Shop and Dining Room Famous for Delicious Food

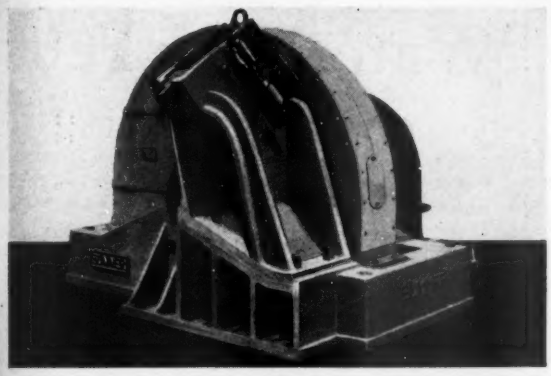
LARGE LIGHT ROOMS
All with bath or shower

FROM $2.50

T. HARRY GOWMAN
MANAGER

SEATTLE

APPLETON WIRE WORKS, INC.
The ORR FELT & BLANKET CO.
ASTEN-HILL ASBESTOS DRYER FELTS
AMERICAN WRINGER CO., INC.
WALTER S. HODGES
paper-machine clothing & rolls
-SINCE 1926-
Pacific Building PORTLAND, OREGON Telephone Beacon 9354



SUMNER IRON WORKS
EVERETT, WASH.
The last word in
CHIPPERS
42 MACHINES IN THE LAST 7 YEARS
SIZES: 51", 66", 72", 84", 110"

The DRAPER Felt
DRAPER BROTHERS COMPANY
CANTON, MASS.

WESTERN SPEED REDUCERS
GEARS From Gear Specialists
Western Gear Works
SEATTLE, WASH.
Associated with PACIFIC GEAR & TOOL WORKS Incorporated
SAN FRANCISCO PORTLAND EL PASO LOS ANGELES

WEB TENSION DEVICE SYNCHRONIZES WINDER WITH CALENDER STACK

New Camachine 46-9 assures firm uniformly wound rolls
Send for descriptive literature
CAMERON MACHINE COMPANY
61 Poplar Street, Brooklyn, N. Y.

PUMPS that measure up to Pulp and Paper Industry Demands . . .

• Write for Catalog •

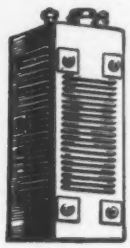
GOULDS

"CLOSE-CUPLD" PUMPS are a product of over 90 years' pump engineering experience. GOULDS know your problems—that's why you can depend upon a GOULDS in your plant. They're Compact—Efficient—Durable. Complete local service and parts stock.

R. M. WADE & CO. SINCE 1865

106 S. E. Hawthorne Blvd. Portland, Oregon
2905 1st Ave. S., Seattle, Wn.

Edison



NICKEL-IRON-ALKALINE BATTERIES

The preferred power battery for industrial trucks in the pulp and paper industry.

Edison Storage Battery Supply Company

Main Office & Factory: West Orange, N. J.
Seattle San Francisco Los Angeles

Appleton felts MAKE GOOD PAPER

CHAS. M. SERVER 209 TERMINAL SALES BLDG. PORTLAND, OREGON

Waterbury Felts

are made by

H. Waterbury & Sons Co.
ORISKANY, N. Y.

Represented by: F. P. Wilder, New Heathman Hotel
Portland, Oregon

A PLUS in Lubrication?

Yes, it's Shell's "Invisible Element" . . . a combination of Shell's world-wide resources in laboratories and refineries; decades of experience and research by Shell's engineers and scientists. It is the aim to make lubrication more efficient, more economical for industry.

SHELL INDUSTRIAL LUBRICANTS

NEW BULLETIN No. 388
is now available on
MERRICK FEEDOWEIGHTS
Write for your copy
MERRICK SCALE MFG. CO., Passaic, New Jersey
Irving R. Gard & Company, 908 Lowman Bldg., Seattle, U. S. A.

WEYERHAEUSER SULPHITE
BLEACHED UNBLEACHED

HESSE-ERSTED IRON WORKS
PULP and PAPER MILL MACHINERY
816 S. E. Taylor PORTLAND, ORE.

USE BUNKER HILL PRODUCTS PURE LEAD - LEAD ALLOYS LEAD

NORTHWEST LEAD COMPANY
SEATTLE
SAN FRANCISCO LOS ANGELES

Roche Harbor Lime and Lime Stone—are standard for good pulp

For Better Bleach
For Better Filler
For Better Tower Use
For Less Impurities

Roche Harbor is the dean of the industry and is noted for unlimited supply, superior quality and unexcelled service.

Roche Harbor Lime and Cement Co. Paul H. McMillin, Pres. Roche Harbor, Wash.

PULP —

Perkins-Goodwin Company
Established 1846
30 Rockefeller Plaza, New York Suite 3805

— PAPER

Read Pacific Pulp & Paper Industry
to keep informed of the news of the Pacific Coast industry.
U. S. and Canada $4 per year.
PACIFIC PULP & PAPER INDUSTRY
71 Columbia Street Seattle, Wash.

STANLEY J. SELDEN
INDUSTRIAL ENGINEER

INDUSTRIAL PLANTS
PULP AND PAPER MILLS

•

319 PERKINS BUILDING PHONE MAIN 8406
TACOMA, WASHINGTON

O. C. SCHOENWERK
Consulting Engineer

2701 COLUMBUS BLVD.
CORAL GABLES, FLORIDA

Pulp and Paper Mill
Design — Construction

Cavin, Marshall and Barr
CONSULTING ENGINEERS

A Firm of West Coast Engineers, Experienced in PACIFIC COAST Problems of Mill Design, Operation and Supervision of Construction.

HAROLD D. CAVIN HARRY L. MARSHALL
CHARLES M. BARR

1215 Exchange Building, Seattle, Washington

CHEMIPULP PROCESS INC.
CHEMICAL PULP MILL ENGINEERS

Chemical Pulping Processes ☆ Operating Surveys
Appraisals ☆ Estimates

500 WOOLWORTH BUILDING WATERTOWN, N. Y.
3311 FIRST AVENUE SOUTH SEATTLE, WASH.

- Associated with -

CHEMIPULP PROCESS LIMITED
403 Crescent Building Montreal, Quebec

Hardy S. Ferguson & Co.
Consulting Engineers

200 Fifth Avenue, NEW YORK CITY

Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
Moses H. Teaze.....Member A.S.M.E., E.I.C., A.S.C.E.

Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of

Pulp and Paper Mills and other Industrial Plants.
Steam and Hydro-electric Power Plants
Dams and other Hydraulic Structures.

GEORGE F. HARDY
Consulting Engineer

305-309 Broadway, NEW YORK CITY, N. Y.
MEMBER—Am. Soc. C. E.—Am. Soc. M. E.—Eng. Inst. Can.
Consultation—Reports—Valuations—Estimates—Paper and Pulp Mills —Hydro-Electric and Steam Power Plants—Plans and Specifications.

APPLETON
wires are **GOOD**
WIRES
APPLETON WIRE WORKS, INC • APPLETON, WISCONSIN

L. A. DEGUERE
Mill Architect and Engineer
WISCONSIN RAPIDS, WIS.

PULP and PAPER MILLS

Ground Wood, Sulphite, Sulphate, Surveys, Estimates and Reports — Water Power Development

Reference—A long list of successful plants in various parts of U. S. and Canada

Over 25 years actual experience in designing and building of mills.

Chromium Corporation of America
CRODON
The Chrome Plate
TRADE MARK REG. U. S. PAT. OFF.

Charles H. Belvin, Jr.
P. O. Box 3643
Portland, Oregon

NEW YORK WATERBURY CLEVELAND CHICAGO

PULPWOOD CLEANING MACHINES
★ ★ ★ BARKERS ★ ★ ★
KNOT BORING and ROUTING MACHINES
CONCAVE KNIFE AND BROUTING BIT GRINDERS
★ ★ ★
STETSON-ROSS MACHINE CO.
SEATTLE, WASHINGTON

SULPHUR

Freeport Sulphur Company
The Chanin Bldg., New York City
122 East 42nd Street

. . . Mines . . .
Freeport, Brazoria County, Texas
Grande Ecaille, Plaquemines Parish, Louisiana

Pacific Coast Sales Agents:

Balfour, Guthrie & Company

Seattle, Tacoma, Portland,
San Francisco, Los Angeles and
Vancouver, B. C.

SULPHUR

Improve Your
ACID PLANT OPERATIONS

INVESTIGATE the improved processes offered by Chemical Construction Corporation for production of high-strength acid and for independent recovery of SO_2 from relief gases.

These processes modernize old acid plants at low cost, and produce cooking liquor of higher SO_2 content than heretofore available. Free SO_2 of 7.5 per cent or higher strength is easily obtainable.

High-strength acid together with our improved circulation system, indirect heating and full automatic control for digester operation make more pulp in each cook, make the quality high throughout the batch, shorten the cooking period, increase mill output and cut operating costs substantially.

We furnish acid plants from sulphur or pyrites burner to pressure storage of fortified cooking liquor—complete.

Let us submit suggestions and costs.

Chemical Construction Corporation

CHEMICO CHEMICAL CONSTRUCTION CORP.

Consulting, Contracting and Erecting Chemical Engineers

30 Rockefeller Plaza NEW YORK

Wires THAT TELEGRAPH A LOT OF Research
• Research? It's always going on at Lindsay—has been for more than 30 years—behind the scenes and "behind the seams." There's a Lindsay wire for every need—with sewed, brazed or welded seam—each type prescribed to meet your exact case and to help you make better paper at a lower cost.
THE LINDSAY WIRE WEAVING CO.
14025 ASPINWALL AVENUE
CLEVELAND, OHIO
Lindsay WIRES

INDEX OF ADVERTISERS

A
Appleton Wire Works, Inc. 55
Appleton Woolen Mills 54
Asten-Hill Mfg. Co. 52

B
Beloit Iron Works 1
Bingham Pump Co. 30
Black-Clawson Co. 28
Bulkley Dunton Pulp Co. 4

C
California Cotton Mills 51
Calco-Chemical Co. ..... Outside Back Cover
Cameron Machine Co. 53
Cavin, Marshall & Barr 55
Chemical Construction Corp. 56
Chemipulp Process, Inc. 53
Chromium Corp. of America 55

D
DeGuere, L. A. 55
Draper Bros. Co. 53
Du Pont de Nemours & Co., E. I. ..... Inside Back Cover

E
Eastwood Nealley Corp. 52
Edison Storage Battery Co. 54
Electric Steel Foundry Co. 51

F
Ferguson & Co., Hardy S. 55
Freeport Sulphur Co. 56

G
General Electric Co. 52
Great Western Electro-Chemical Co. 3

H
Hardy, George F. 55
Heller & Merz Corp. ..... Outside Back Cover
Hesse-Ersted Iron Works 54
Hodges, Walter S. 53
Hotel Gowman 52
Hotel Multnomah 47

L
Lindsay Wire Weaving Co. 56
Link-Belt Co. 40
Lockport Felt Co. 49

M
Merrick Scale Mfg. Co. 54

N
Nash Engineering Co. 49
National Aniline & Chemical Co. 50
Nichols Engineering & Research Corp. 38
Northwest Lead Co. 54

P
Pacific Coast Supply Co. 48
Perkins-Goodwin Co. 54
Puget Sound Power & Light Co. 47
Pulp Bleaching Co. 47

R
Roche Harbor Lime & Cement Co. 54
Ross Engineering Corp., J. O. 32

S
Schoenwerk, O. C. 55
Selden, Stanley 55
Shartle Bros. Machine Co. 28
Shell Oil Co. 54
Shuler & Benninghofen 50
Stetson-Ross Machine Co. 55
Sumner Iron Works 53

T
Taylor Instrument Companies 2
Texas Gulf Sulphur Co. 36

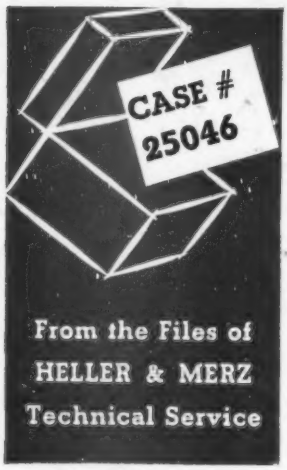
V
Vaughan Motor Co. ..... Inside Front Cover

W
Wade & Co., R. M. 54
Wallace & Tiernan Co., Inc. 51
Waterbury & Sons Co., H. 54
Western Gear Works 53
Weyerhaeuser Timber Co. 54

HALOPONT* COLORS BY DU PONT

...possess four essential characteristics of the perfect tinting dyestuff

*Reg. U. S. Pat. Off.



From the Files of
HELLER & MERZ
Technical Service

Two-Sidedness

Hits a New Low

Two new shades—Bond Blue B and Bond Green Y—have been added to the Heller & Merz line of dyes. And all because our Technical Service men got to brooding!

Because blue and green bond papers are prime favorites with big business, they mean big business for mills from coast to coast. So our men set about producing dyes in these established shades with even less than the usual tendency toward two-sidedness—and even greater dollar value to the mill men.

Bond Blue B and Bond Green Y are their answer. Bright, and with good light fastness, they'll deliver the goods at the dry end with a minimum of two-sidedness.

Try these two new H. & M. colors for bond paper—and see if they're not a welcome improvement. Samples will be gladly sent upon request. Incidentally, our Technical Service men might be able to help find the answer to some particular dyeing problem in your own mill. Their service is available to any user of dyes without charge or obligation—so just write or wire our nearest branch office and a member of our Technical Service Staff will be sent promptly to talk over your problem with you.

H & M DYES ARE BETTER BUYS

Heller & Merz

90 WEST STREET, NEW YORK, N. Y. • BOSTON • CHICAGO • SPRINGFIELD, Mass. • PHILADELPHIA

DIVISION OF THE CALCO CHEMICAL COMPANY, INC.

A DIVISION OF AMERICAN CYANAMID COMPANY